AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

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Cinematographers

Dramatizing Travelogue in Southwest
HERBERT

Parkers Tour Mexico

Films in Springtime
BLAISDELL

Uncle Sam Builds Camera Car
HAYTHORNE

Snip and Get Snap
CADARETTE

16mm. Sync Machine
HUNT

Aeration
CRABTREE and SCHWINGEL

If Good in India . . .
JEPSON

Amateur Roadshowing
LITTLE

Writing for Beginners
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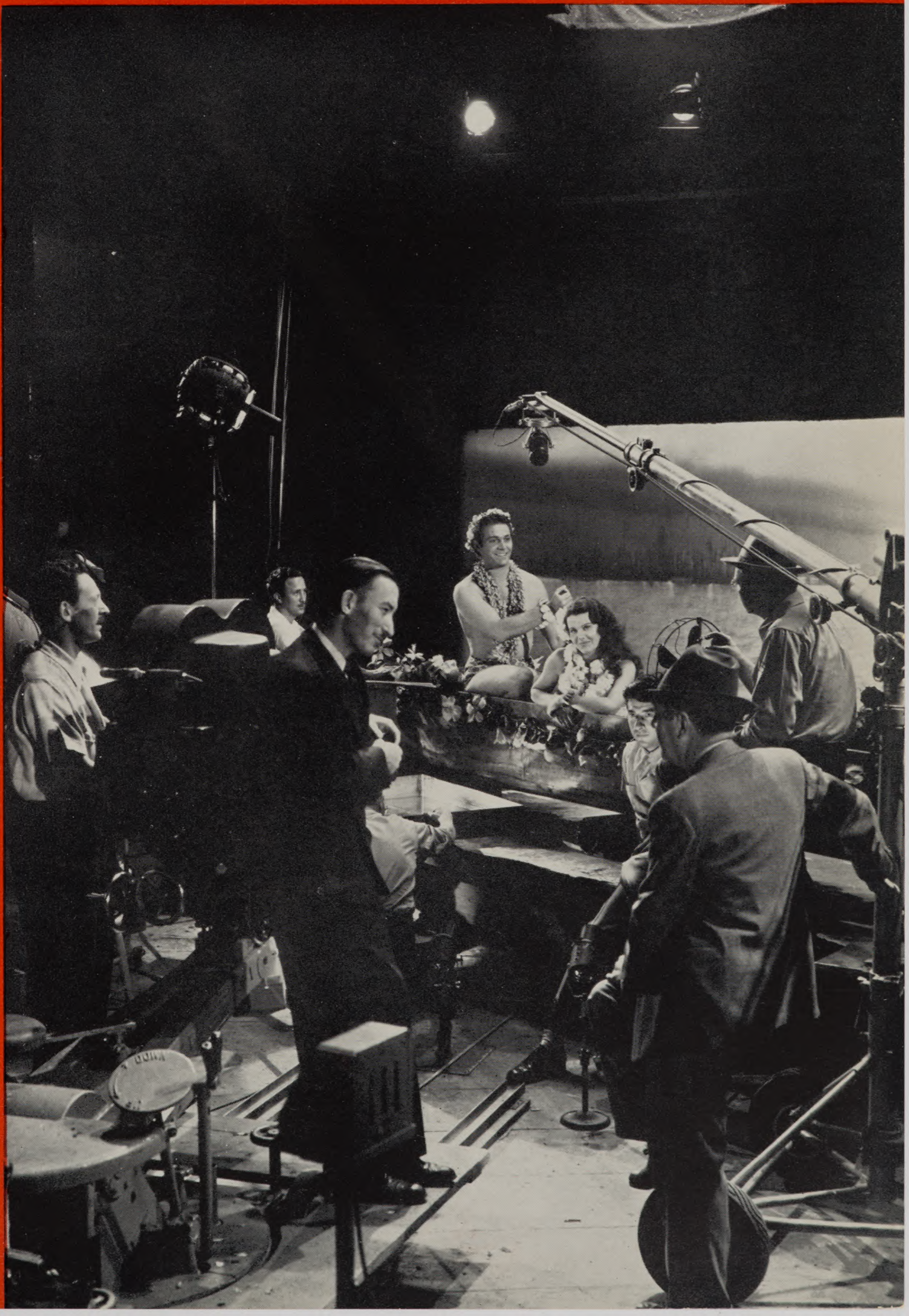
HAYDEN



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Edward Small-United Artists
John J. Mescall, A.S.C.

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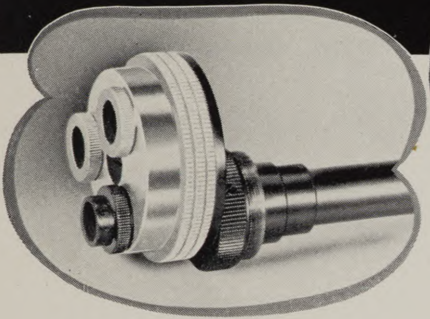

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The Front Cover

In this shot of "South of Pago-Pago," an Edward Small production for United Artists' release, we have in the foreground, left to right, Assistant Cameraman Harry Wolfe, Cinematographer John J. Mescall, A.S.C., and Director Alfred E. Green. In the canoe in front of the process screen are Jon Hall and Olympe Bradna. Those who are fortunate enough to witness in the theatre the sequence that is being portrayed will enjoy it—that is, if they enjoy a lovemaking scene. *Photo by William Wallace*

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Films in Springtime

By George Blaisdell

Our Town

Sol Lesser's adaptation of Thornton Wilder's Pulitzer prize play entitled "Our Town" truly may be dignified by the much abused word "Classic." For classic it is, if by that identification is implied a picture that is out of the ordinary groove; that is in a path entirely its own; that is portrayed by a handpicked cast of character actors and two leads that are as youthful as consistently they can be; that in all the contributing channels of picturemaking, from direction to editing, what is seen on the screen is of the highest class—absorbingly, vitally interesting; great today, great any day.

In all these contributing channels no one stands out more clearly than does the photography of Bert Glennon, A.S.C. As the picture was out of the ordinary in other aspects, so was it out of the ordinary in its photographic department. Perhaps if the truth be known, the story was one created to Glennon's liking—with its many moods and phases; with its highlighting and lowlighting, at times so low as to be extremely shadowy.

And there's a story told—and printed—around the making of "Our Town" which forcibly brings home to those comparatively few inside as well as of the multitude outside of the studios the importance of the cinematographer in the making of a picture.

The producer was seeking a feminine lead for his story—in this story a particular important factor. He had seen a screen test made of Martha Scott, who had played Emily Webb, who had in fact created that part in the New York stage production—the logical person to be given the screen part if at all possible. The test was decisive—against Miss Scott.

After tests had been made of nearly a hundred young women without outstanding results the test of Miss Scott was shown to Glennon. His verdict to Lesser was that Miss Scott was the "victim" of a bad test, that the lighting was wrong. When the producer immediately sent to New York for the player she was given a new test by Glennon. When the new test was flashed on the screen the producer saw Miss Scott was highly photogenic. And so did every one else in the vast house on preview night. Hers was one of the hits of the production.

One of the novelties of the subject is the narrator, Frank Craven, who as a friend of the court, so to speak, advises the house who is who and what is what. Craven only appears in the story but twice, just bits in themselves, but his narration is a thing by itself—splendidly, sympathetically, most interestingly told. It is all a story of a little New England town. It runs true to the life, except that the heavies, if any there are, are restrained in the background.

Proving the picture is a classic, here is a tale without any explosion or eruption; no fist fight; no triangle; only one gossip and she a very mild one; only one drunk and that one, the organist and choir leader, a very dubious drunk, who walks perfectly straight; no family quarrel or anything approaching one; a tale that moves, to mirth and to tears.

Perhaps the strongest scene in the subject, of drama and comedy, is that between the boy and the girl, a year more to go in high school, in which the love of the one for the other is revealed and confessed—subtlety wangled out of the bashful boy by the equally bashful but desperately clever girl. It is a delightful thing. And so is the show.

●

Typhoon

Paramount's "Typhoon," in Technicolor, is very much a photographic picture. Which is to say, it is a photographic rather than a dramatic picture. It is a film no photographer should miss. It should be seen because of its excellent, natural settings—of the South Seas; though actually they may not be authentic, nevertheless they remain natural.

It certainly should be seen for its weather and its seas. These last named pile and tumble just as we know in many parts of the world they are piling and tumbling right at this minute, even if we prefer to witness the commotion on the screen to participating actively in its creation. It should be seen for its jungle fire, which, dramatically enough, immediately precedes the typhoon even as it is immediately extinguished by it. In that respect it is not entirely an unpopular typhoon.

William Mellor, A.S.C., is director of photography, with Allen M. Davey, A.S.C., as associate. Gordon Jennings, A.S.C., was in charge of special photographic effects, and as intimated in the foregoing they were unusual. We repeat, it is a photographic picture.

●

Waterloo Bridge

Robert Taylor and Vivien Leigh make an unusually strong team in M-G-M's equally strong story of "Waterloo Bridge." It is the latter's second Hollywood picture. The making of the film marked Taylor's sixth anniversary as a Hollywood player. Also perhaps it was his first screen appearance with a mustache. Unimportant as that simple fact

Mae Clarke as Gail, Wendie Barrie as Pamela, and that famous entertainer of the American soldier abroad in the World War Elsie Janis as O'Neil are trapped in a barrage in Republic's "Women in War."

Still by Joe Walters

may sound, nevertheless it may have wider significance.

It was one of those closely cropped affairs such as was worn by British officers in the World War—and also by many American officers brigaded with the British forces—but it made a great difference in the appearance of the player. On his entrance, as an officer of the present war and preceding a flashback to the preceding war, the mustache served as an excellent disguise when accompanied by graying hair.

So distinguished was the result, however, the bit remained for the flashback. In fact, so well does he photograph that way he wears a mustache all through his following picture, "Escape." All of which, of course, is of interest to women customers and naturally to producers.

But getting back to serious and important things, it was a story of life in the raw—not just a pretty story. It was a tale that flowed from a simple thing like a change in orders to a regiment, that sent that regiment back to France at night instead of the following afternoon, thereby preventing a scheduled marriage. When a little later a newspaper reported as dead an officer who had been captured instead the progress of the tragedy was advanced.

The story will not be told here, however. Better will it be told on the screen, where it will be depicted as Joseph Ruttenberg, A.S.C., and his craftsmanship record it. In the picture is shown the fog on Waterloo Bridge, thick, like a wall, and the antithesis of this, the brilliantly lighted reception preceding the finally scheduled marriage of the two in the ancestral mansion of the bridegroom-to-be. Between these two sequences are all the varying degrees of lighting imaginable—and reproduced with entire naturalness.

•

Lillian Russell

Twentieth Century-Fox has made a bold and an expensive attempt to build a popular picture of the life of "Lillian Russell." Undoubtedly it will succeed. While this famous woman of the stage has been away from the public less than a quarter of a century nevertheless a new theatre following has been created. That following does not have the prejudices, the understanding of the affection, the veneration, the admiration of the public for the Lillian Russell of 1880 to 1900, for a lessening degree to 1920.

Ask the average person who was cognizant of stage matters at any time in the first twenty years named as to the screen player who adequately could portray the life of Lillian Russell the chances are the request would be greeted with a negative shake of the head. So that is the tough spot on which Alice Faye was sent into the cast—in the view of the older audience.

To the average customer she was at home in the part and finely portrayed her difficult assignment. Don Ameche, too, was strong as the first husband. Henry Fonda as Alexander Moore, the final husband, played a likeable part. There was an abundance of material without mentioning other husbands.

Edward Arnold was at his best as Diamond Jim Brady. Warren William, Leo Carrillo, Helen Westley, Dorothy Peterson, Ernest Truex, Nigel Bruce, Claude Allister, Lynn Bari and Joseph Cawthorn formed an unbeatable cast. Weber and Fields, in person, the men who for eight years employed Lillian Russell as one of the members of their stock company, convulsed the house—just as funny if not more so as ever. Eddie Foy Jr. played Eddie Foy senior. And would not the elder have been proud of his son could he have seen him! Irving Cummings, who directed, had the advantage of personal acquaintance with many of the notables in the story. He had played juvenile lead in Miss Russell's last stage play.

Leon Shamroy, A.S.C., handled with credit the important and difficult assignment of director of photography. It was an assignment that ran the gamut of the photographic range, from high to low, nearly all interiors. One particularly effective shot, one that lingers in the memory, was of Alice Fay in front of a velvet curtain. She was singing a song, never mind whether it was one of the good old ones or just one of the new-fangled indifferent ones. It was in a garb that was reminiscent of the player being portrayed. It really was a bit of photography.

•

Flight Angels

Here is a picture out of the Warner Brothers' studio which is different from the run of air pictures. Just why "Flight Angels" is different might be difficult to explain, but probably it is in the naturalness of the portrayals and the consequent conviction on the part of the beholder who follows them.

The title is pinned on to the airplane stewardesses, but the higher level of the drama rides with one of the pilots, portrayed by Dennis Morgan, one of Warners' brightest young men, one who is well on his way to a distant place. For one who within a few days has witnessed a near commercial short—and very interesting as theatrical entertainment—from Fox's "Magic Carpet" of how stewardesses are trained for work on airplanes "Flight Angels" presents the opposite viewpoint.

In the short subject the girls are shown as a dignified, exceedingly circumspect group. In the present picture they are in their recreation room, away from work and strict attention to duty. They

(Continued on Page 278)

Clyde Makes Fun Off as Well as on the Screen — William Boyd, Russell Hayden and others engaged in producing Paramount's Hopalong Cassidy picture, "Three Men from Texas," on location near the base of Mount Whitney, watch Andy Clyde, another actor, in a scene and genuinely laugh at his performance. Producer Harry Sherman, with the wind in his hair, sits on a stepladder and watches the proceedings with a critical eye. The girl is Esther Estrella, taken from the extra ranks and made a leading woman by Sherman. Director Lesley Selander sits grinning on his perch just under the camera, while Russell Harlan, A.S.C., in white shirtsleeves, back of it, directs the works. Perry Finnerman, with visor, and Bob Rae do the physical labor. Boyd stands poised in the foreground and Hayden, in checkered shirt, sits just back of him.

What's Good in India Is Good Everywhere

By STANLEY JEPSON

Amateur Cine Society of India, Bombay, producer of the Indian "Rope Trick"

Reprinted from Amateur Cine Work in India, a brochure published by the Amateur Cine Society of India, Bombay.

Even the owner of one of those handy little cine cameras "at six annas a shot" does not always realize the vast scope for amateur cine filming in India, and judging by his output, the professional cameraman has certainly not even touched the fringe of it. The writer outlines a few of these possibilities and gives some practical working hints. He has made little documentary films and plays in two substandard sizes, and maintains that the hobby need not be too expensive if one remembers that the main fun is at the editing table and not in the continuous shooting of a film that is not intrinsically entertaining.

EVERYWHERE are seen those handy little cameras which enable one to keep a living record of life—an intensely valuable record of the family, of holidays, of work as well as play perhaps. There may be art and artistry even in the presentation of such ordinary subjects to friends — failing which "home movies" after dinner may be a veritable social menace!

But after a time the button presser grows tired of the magic of seeing his family and his friends move about aimlessly (mostly) on the silver screen. He takes an intelligent interest in filmic creation; he realizes that films are not "shot," but *built up*, spliced foot by foot into a coordinate whole. He splices—far into the early morning hours. His wife cannot get him to bed, and realizes she may become a cine widow.

She also takes an interest in this most fascinating of all hobbies. They title, they splice—together. They discuss films together, read amateur film journals—of which there are several excellent ones. Their bookshelf grows and glows with bright jackets of books by Pudovkin, Strasser, Gordon Bennett, Frances Marion and other writers.

Mr. and Mrs. Rightstop

Now you would imagine that Mr. and Mrs. Rightstop, living in a country like India, would turn out some most acceptable films. But do they? I don't think so.

Why is this? Perhaps the facility and handiness of those little cameras has something to do with it. When Mr. and Mrs. Rightstop cease to regard it as a plaything, to be taken as an afterthought on a week-end outing or into the garden on a nice fine day, when they look at it as the serious and capable instrument it is, then they will probably create good films. Too often the amateur goes out for the day and says "Oh, let's take the cine to see what we can shoot!" That kind of attitude will never produce worthwhile films.

When they sit down and plan in advance, scribble their filmic ideas on paper, try to set out their story shot by shot, think *in pictures* visually instead of in ideas—then Mr. and Mrs. Rightstop will be on the way to making something which will give them lasting pride and joy, for it may be a thing of entertainment and a joy for ever. Or it may not!

Consider, friend Amateur, your advantages. You can show your audience places they know, and demonstrate things about these places which they do not know. That in itself is a fine start. "My film is silent and I am at a disadvantage," you say. Is that so?

Why not work out a running commentary with background music (*suitable* music) from a radio gramophone, and *you can suit your commentary to your audience* with occasional references to individuals! Is this a disadvantage?

Some Local Subjects

Consider another advantage which the professional would give anything to have. *You* can shoot in color with little extra expense, and with no extra apparatus or fuss!

No, the brake is not the amateurs' drawbacks, but the fact that he has not properly considered the rich filmic field named India. What about a film showing the various festivals and fairs of India? Isn't that worth doing? You can shoot in black and white or color, or you can mix it—*if you understand how to mix color with black and white* in a film.

Moreover, you can go on shooting all the year round, and you will learn lessons after shooting one festival which you can apply to the next, and so on. You will go on learning, which is the main thing. Your final festival should, in theory, have eliminated most amateur errors, especially if you have taken advice and criticism from capable friends, and learnt from watching reactions of your audiences.

Have you ever thought of making a film of the city in which you live? Who has seen a really good amateur film (or professional?) of cities like Calcutta, Bombay, Madras, Colombo?

What about a day in the life of the dhobi, barber, beggar, fruit merchant, hawker, bookie, etc.? And India's odd industries—fishermen who still use the methods of thousands of years ago; gold and silver refining, agricultural contrasts East and West, general contrasts East and West, comparisons between men and animals (be careful how you include your best friends!)—but I could go on for half an hour or more. You, reader, know quite well that India teems with these subjects.

Technique

Your technique must not be bad. If you read intelligently, it should not take you long to master your camera. Cinemaphotography is based on photography, remember, and if you cannot master your cine camera put it on one side, buy the cheapest box camera and learn to master that. If you cannot take good photographs you certainly cannot shoot films.

The reverse does not apply: because you *can* take good photos it does not at all follow that you can build up a good film. You are only a quarter the way there, if that! You have to learn how *moving pictures must move* — whether through movement of the people in the film or through varying camera angles—how to build up the story (all pictures are stories in a way even though they are not plays) how many seconds different shots should last on the screen (count the seconds when you see your next professional film), how to avoid jumps in action, how you should cut on the editing table, how to title—and then you can attack problems like continuity, characterization, lighting, mood lighting, rhythm, tempo, etc.

Don't be depressed by these mysterious things. The professional makes a great to-do about them, but you will learn subconsciously while you are making your little films. That is the best way to learn anything. Afterwards you will read a book and realize how much you have learnt in this way! Then you can make another film and learn what a tremendous amount you have *not* learnt!

Keep on—no, not shooting, but editing and improving your old films. Title and finish them all. Stop shooting until you have done this.

And remember, the amateur of today is the professional of tomorrow, and the rewards of the film world are great.

But even if you have no such ambition, you will find happiness and worry-forgetfulness in this most fascinating of all hobbies.

Dramatizing Travelogue as It Was in Southwest

By Charles W. Herbert A.S.C.

"A boy of twelve, with an arresting face, dressed in blue jeans and ragged straw hat, was out in the foreground of one shot. He almost stole the interest completely away from the Mission."

MOST travelogues are made in a routine manner to a more or less uniform pattern. They lead off with introductory long shots and general views which should unmistakably establish the location.

This done, the cameraman searches for and shoots a wide variety of sequences to build up the reel. He gets under the skin of his subject by opening gates and doors to more intimate aspects of the life of the people. Also he must get away from the ports, the railroad and highway to penetrate the country where little or no outside influence has affected the terrain or the people.

The amount of intimate scenes and the degree of penetration depends upon the time and expense money available plus the demand for the subject, and, in a great measure, the ambition of the cameraman.

Then comes the closing scenes. The most popular sought for are sunsets with typical landmarks such as palms, minarets, missions, pyramids, Eiffel Tower, etc., standing out in bold relief against the sky.

To relieve the dull feeling of subjects where action and natural interest are either absent or not visualized by the cameraman, various additional interest themes have been injected. Beautiful girls or children have been directed to move across the scene or to stand on one side to give the feeling that they are actually traveling through the country being covered by the travelogue.

Ghosts Walk

By double exposure, ghosts have walked from right to left, from left to right, toward the camera, away from the camera, or set in one corner of the frame. These ghosts usually portray some historical figure that trod the same paths being followed by the travelogue. Transportation systems and their travel facilities have been featured through a reel.

Picture albums have been brought to life as their pages turn from one scene to the other, and cut-in shots show the characters looking at the album. These and many other vehicles have been provided to carry the scenes of the travelogue through nine minutes of smooth running.

It's easy for the professional travelogue or experienced amateur to grind out the run of the mill type reel as regular as clockwork. Yet often his own particular style is easily distinguishable on the screen.

Sometimes the full time travelogue cameraman has to dig deep and think hard to get material for his next reel, especially when the country or location is similar geographically and racially to the one just covered. Best way around this problem is to try whenever possible to vary his style and find a new approach to an old story.

Most travelogue cameramen are intrusted by the producer to locate and decide upon material that comes up to the requirements of his particular series. This is especially true because the editor realizes that the man in the field is better able to decide on subject matter than he, himself, is sitting at the desk in New York. There are times, however, when the editor has some particular theme in mind and instructs the cameraman to go out and get it.

Six Southwest Reels

I had just such an assignment this past winter. Joseph O'Brien, editor of Universal's Going Places series, wanted six reels from the Southwest. I suggested several reels which he promptly approved, adding that he had long wanted a reel on the old Missions.

I could not get very enthusiastic over this idea, for I knew that a dead subject confronted me. However, I started out, determined to find a way to make that reel. After I got down in the territory I first discovered Death Valley for one complete reel, then set out for Tucson to do a reel called "Tucson Trails."

By that time I learned that California had the most extensive chain of Missions, but that they were quite similar and most of them had been restored and were being featured as tourist attractions.

Then there were the Missions in New Mexico through the Indian country. A booklet published by the State Highway Department showed pictures of them and gave a lot of data about them. They were similar in appearance, were all in Indian villages and also featured as tourist attractions.

Neither of these possibilities seemed to give the chance to build up a reel with sufficient variety of interest and natural action.

San Xavier Mission, in Tucson, is a "must" on the itinerary of all tourists doing the Southwest. I covered San Xavier as part of "Tucson Trails," but as I knew that I was on the trail of material for a complete Mission reel I did it more thoroughly than usual.

I thought in this way I might have a foundation on which to build a Mission reel, but if no other material was obtained San Xavier would at least make a complete sequence for "Tucson Trails."

The Mission itself was partly in ruins and partly restored. A general view was very effective from several angles and there was interesting detail on the front for closeups. The main part of the building was still used for worship.

Juice for Photofloods

The details of the interior were elaborate and had great historic value. As the Misison was on an Indian reservation, the congregation was mostly made up of Indians. The Annex portion around the patio was used as a Mission school for the Indian children.

First I arranged permission to make scenes of a regular Sunday Mass. The Tucson Power and Electric Company, eager to do its part in tourist promotion, gladly installed a special line to give us enough juice for fifteen No. 1 Photofloods, as the regular wiring in the church was too weak to carry the load.

The camera was placed on the balcony in the rear of the chapel before Mass began. From this position, general views of the service, taking in much of the congregation, were made. From this same position some telephoto shots of the altar were easily made without disturbing the service.

After Mass, the fathers and altar boys re-enacted effective parts of the service as the camera and lights were brought in for closeups. Infinite care was exercised to get impressive details here with effective lighting.

Shots were also made of some of the worshipers as they lit candles at the altar. In addition we featured some of the elaborate images and details of the interior decorations.

The school children all wore simple uniforms. We had them march out of the patio, choosing a camera position that featured the graceful age-worn arches and dome of the Mission. Several angles were made to extend the sequence and keep it interesting rather than one long scene as the entire group marched past.

Movement in Same Direction

Next the camera retreated to a distant position on a hill looking down on the Mission. There were two statues of lions which made an imposing foreground for the long shots as the children continued their march from the patio to the playground beside the Mission. After the children were in position for a game, with a two circle formation, another general view was made from a different angle.

Then the camera was moved in for full views and closeups, always being careful to keep the movement going in the same direction and building up the background with the Mission. As the camera was brought in even closer, the all important human interest shots of the children absorbed in their game were made.

This done, San Xavier was in the bag with enough material to make two sequences for "Tucson Trails," or a firm foundation on which to build up a Mission reel.

Down at Tumacacori National Monument, the Interior Department has built a wall around the ruins of Tumacacori Mission and developed a complete museum with full historical data, exhibits and paintings pertaining to the establishment of the Father Kino chain of Missions.

Although all of the Missions in this region that are standing today were built by Franciscan Monks, the pioneer work was done by Father Kino, a Jesuit. Father Kino started out from the Sinoloa province of Mexico to explore and settle a vast region to the North which constitutes today the States of Sonora, Mexico, and our own Arizona.

Here was a peg on which to hang a dramatic travelogue story of an otherwise dull subject—if merely a succession of shots were made at the various Missions.

Fitting Climax

"On the Trail of Father Kino" was the logical theme for the Mission reel. The story was clear in my mind—a re-enactment of Father Kino traversing the country, a re-enactment representing the building of the Missions, then shots of all of the standing Missions along his trail, ending with impressive shots of the Cathedral in Tucson would make the reel.

The Cathedral, which stands as a monument of the foundation laid by Father Kino centuries ago, was a fitting climax.

Finding a double for Father Kino was not easy, especially as I could not call on the services of a make-up department as a production cameraman could. It seems that Nogales would be the logical place to find a double, but though we searched and searched, even running a story in the local paper, none of the suggested men or applicants filled the bill.

Back in Tucson I searched among the Catholic fathers in that diocese but they were either too young, too fat or just not like Father Kino should be. He must have been a man of determination and vision, bronzed by the desert sun and hardened by his exploits.

Getting a Double

While discussing the problem with Father Gordon, a man passed. He was the caretaker and handyman around the Cathedral. Father Gordon said "There's your man." Sure enough he was. But Juan had a mustache. When we told him what we were looking for he said "Well, I'll shave it off." And shave it off he did.

An Indian guide was picked up at the Papago Reservation and we went out to the Lazy K Bar ranch, where a variety of settings were available.

Father Kino's costume was assembled from pieces we found here and there in Tucson. The hat, Jesuit style, was built from the brim of one cowboy hat and the crown of another. A horse was saddled with an old Mexican saddle for him to ride and a crude pack rigged on a donkey's back for the Indian to lead.

Various scenes were made of Father Kino and his guide making their way across different types of desert and mountain country, these to be cut in here and there in the reel.

At San Xavier we selected a small portion of the building with a bell tower, smoothed off the cracked and chipped places with cement and gave it a fresh coat of white water paint. The Indians wearing breech clouts were given some crude straw brushes and a shot was made as they put on the finishing touches of paint.

One of the Franciscan fathers stood nearby holding a rough plan as he supervised the work. At sundown a silhouette shot was made of the father blessing the bells to portray the completion of the Mission. These three shots were sufficient for the re-enactment part of the reel.

Getting Tourists

In the museum of Tumacacori there were lifelike dioramas of an interior of Tumacacori Mission during its heighth, of Father Kino on the trail, and of the battle of Tubatama. We removed the glass, lighted them with photofloods and made shots.

This sequence was built up by showing a group of tourists in the Museum, looking at the displays, then coming in close to fill the screen with one of the dioramas

Juan, handy man and caretaker around the Tucson Mission, is selected after much search to portray Kather Kino, famous Jesuit of centuries ago. The cameraman pictured one of determination and vision, bronzed by the desert sun and hardened by his exploits. Juan does not hesitate to sacrifice his mustache.

Juan as Father Kino in "On the Trail of Father Kino."

and a tourist's head on the side. Detail shots of the dioramas followed logically.

There were some water color illustrations with brief descriptive data giving the various stages in the establishment of the Mission. We copied these and also a map showing the trail and location of the various Missions founded by Father Kino.

We then went down into Mexico, starting at San Ignacio, near Magdalena, about ninety miles south of Nogales on the new highway to Hermosilla. San Ignacio was well cared for and full of charm. It was in the center of a peaceful village where practically all of the inhabitants are direct descendants of the early Spanish settlers.

We made a series of shots of life in the village, always keeping the Mission in the background and including in the foreground various everyday activities of the peaceful life in the community.

Series of Incidents

A woman feeding chickens, girls hanging out clothes, a man on horseback talking to a neighbor, a silhouette of a woman in a window combing her child's hair, a man in a doorway smoking a cigarette and a girl sweeping off the doorstep of her home. Some men working in the same fields that Father Kino planted, with fruit trees in bloom and the Mission in the background, completed the sequence. I couldn't resist a closeup of an apple blossom with a bee sipping the nectar.

A brief coverage of Mission Magdalena was sufficient, as it is not picturesque and almost crowded out with the town buildings. But Father Kino is supposed to be buried in Magdalena.

From Magdalena we headed westward on a back road through a region rarely visited. Here we found Caborca, by far the most elaborate, most massive and most impressive Mission. A recent flood destroyed its rear section and practically no life exists around it.

My scene here was framed through a tumble-down doorway and shot with a 72A filter on Plus X to give a striking effect to this inanimate subject.

Pitiquito Mission, nearby, was quite unimpressive and, like Magdalena, difficult to get a pictorial angle. So I just made one shot, framed through the upright and roof beam of a porch on a house across the street.

Oquitoa Mission was striking indeed with the typical bells atop its front wall. Age had worn away the stucco and mellowed the wall. The setting alongside the cemetery provided a variety of angles. A few of the inhabitants of the village were used to provide some natural, pleasing action. A boy of twelve with an arresting face, dressed in blue jeans and ragged straw hat, was put in the foreground of one shot. He almost stole the interest completely away from the Mission.

Off Beaten Path

This region off the beaten path is certainly worth seeing. The people live industriously, farming little irrigated patches. It's fresh and green; there's a kind word and a friendly smile from everyone for the visitor. There seems to be nothing except pure Spanish blood here. Indian mixtures were not seen.

Going on northward, we came to Atil. Although the original Mission is a crumbling ruin, there is a new one beside it and the original bells hang on poles in front. For variety I built up a sequence of a group of tourists visiting the Mission. First the camera aperature was practically filled with the bells. In the space between the two bells, the tourists were shown coming into and out of the picture as they walked toward the ruins.

Then the camera was put on the other side of the bells, further away so that the Mission ruins stood out plainly in the background. The tourists were just entering the doorway as the scene was run off. Next the camera was put inside the ruins, so the crumbled doorway framed the tourists as they entered.

This sequence was ended with a low shot of the backs of the tourists. As they walked in the doorway, the camera was tilted up ending with an artistically framed shot of the archway and walls against the sky with a light and shadow composition.

Gets Indian Fiesta

Going farther north, we came to Tubatama Mission, which unfortunately was undergoing repairs. The scaffolding destroyed the artistic lines of the Mission, and as I had sufficient material of this type I passed it up, remembering that I had already made the diorama of the battle of Tubatama while working in the Museum.

Back in Tumacacori, I was just in time for an Indian fiesta, during which they enacted all of the ritual of the burning of an effigy of Judas. This gave me a pleasing sequence with the variety I needed. The Indians were in homemade costumes, and their intent simplicity of movement furnished just the right action in front of the Mission ruins.

Palm Sunday found us busy at San

Augustine Cathedral, in Tucson. Impressive full view exteriors of the front of the Cathedral bathed in early morning light, heavily filtered, were good for an opening to this sequence. Then as the congregation came out, we moved in for details.

The interior was too large to light up, so a general view was made on Super XX at ten frames per second while the congregation was at prayer during the next Mass. Some impressive closeups of the choir and the ritual at the altar were made after Mass through the kind co-operation of the church.

In summary, the maps and historical paintings, followed by the re-enactment of Father Kino, and the building of the Missions gave an informative introduction with dramatic feeling. By selecting different action at each successive Mission the interest was not allowed to lag. The interiors of San Xavier with the simple Indian congregation gave a useful step-up to the dramatic finale of a glorious Mass at Eastertime.

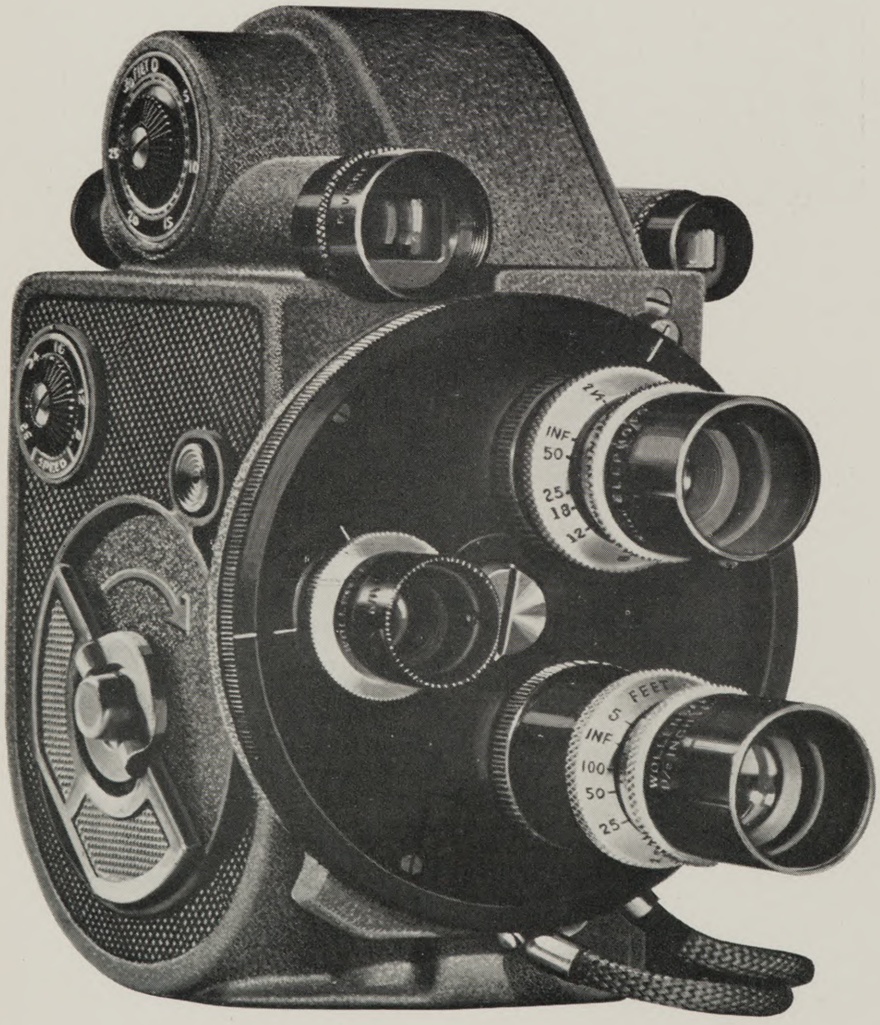
REVERE 8MM. CAMERA ISSUES TRIPLE MOUNT

The Revere Camera Company, Chicago, announces the addition of a new turret mount 8mm. camera to its line of motion picture equipment. This camera has the same precision mechanism as the Revere double 8mm. camera, Model 88, which was announced recently, but is equipped with a rotating turret head for three screw-type lenses. It also has an extra optical viewfinder (31mm.) for telephoto shots. Correct lens position is assured by precision index mechanism.

The Revere turret camera, like the single lens Revere Model 88, uses all standard 25-foot double 8mm. full color or black and white films. It is licensed under Eastman's Double 8 spool and spindle patents. It has an exclusive retarding sprocket film control which makes a film loop automatically should the user forget to do so.

Other features include five speeds, 8 to 32 frames a second, film footage counter, five-foot spring motor, helically cut gears, stainless steel aperture plate and 160 degree rotary disc shutter. The price of the new Revere turret model represents an outstanding value. Complete with three lens turret, one f.2.5, 12.5mm. Wollensak Velostigmat lens, and two viewfinders, the Model 99 retails for $65.

Other Wollensak Velostigmat lenses are also available including f.1.9, 12.5mm. with focusing mount; f.3.5, 1½-inch telephoto, focusing mount, and f.2.7, 1-inch telephoto, focusing mount. For further details write Revere Camera Company, 320 East Twenty-first street, Chicago.



Revere three lens turret camera, equipped with f.2.5, 12.5mm. Wollensak Velostigmat lens and two viewfinders.

Photographic Facts and Formulas. American Photographic Publishing Company, 353 Newbury street. By E. J. Wall, F.C.S., F.R.P.S. Revised and largely rewritten by Franklin I. Jordan, F.R.P.S., Boston, 1940. 384 pp. $2.50.

This book follows a long line of distinguished predecessors which have been the working companions of a full generation of photographers. The work was first undertaken by H. Snowden Ward and carried on in successive editions by Arthur D. Godbold and Professor E. J. Wall, culminating in the edition of 1924. The present volume is brought out in response to a continuous demand for a work of this sort that will give in convenient form the essential facts and formulas constantly used in photography.

The years intervening since the previous edition have seen photography moving so rapidly that the book had to be practically rewritten to bring it up to date, although many of the old formulas that have their permanent worth have been retained, along with the host of new ones necessary to keep up with the procession.

The book is intended as a working guide to practical photographers, giving them in easily accessible form, plain working directions and formulas for all the most commonly used photographic processes. Descriptive matter has been introduced only so far as it seemed necessary to give the reader a comprehensive idea of the processes for which directions and formulas are furnished, so that the formulas could be chosen and used more intelligently. It is also hoped that the descriptive matter, by increasing the reader's knowledge of photographic terms, will enable him better to understand his general photographic reading.

Stillfilm Changes Address

Stillfilm Inc., producers of Educational Films since 1922, has removed its laboratory to 8443 Melrose avenue, Hollywood, or is removing the first week in June.

Reprinted from Journal of Society of Motion Picture Engineers

Effect of Aeration on Photographic Properties of Developers

By J. I. Crabtree and C. H. Schwingel

Communication No. 672 from the Kodak Research Laboratories

IT is well known that many types of photographic developers tend to lose their developing power as a result of exposure to the air. This is especially true in the case of developers containing an appreciable quantity of pyrogallol which change rapidly from colorless to brownish red solutions, especially when the temperature is much higher than 70 degrees F.

Developers of the elon-borax type, however, show no visible signs of change under the above conditions, but their developing properties are more or less affected.

With hydroquinone developers containing sodium carbonate or caustic soda, and which have been allowed to age in the presence of air, it is necessary to develop for a longer time than with fresh developers in order to secure a given degree of contrast.[1] In 1929, Carlton and Crabtree[2] discovered that a developer containing borax as the alkali showed increased activity when allowed to age under ordinary conditions. Lűppo-Cramer[3] and Rzymkowski[4] have also shown that sodium sulfite solutions containing developing agents but without alkali show increased developing action after being subjected to aerial oxidation.

Mees and Piper[5] encountered aerial oxidation fog with hydroquinone developers and also stated that the oxidation products of pyrogallol, when present in developers, caused fog. Similarly, it was stated by Crabtree[6] that the oxidation products of developing agents, produced by improper methods of mixing, may cause development fog.

This observation was not confirmed in the later work of Dundon and Crabtree[7] when it was found that the addition of oxidized developer to a fresh developer tended to decrease fog. This inability to produce oxidation fog with existing chemicals was attributed to the fact that chemicals manufactured previous to 1920 which readily gave fog, must have contained impurities which, on oxidation, behaved as powerful fogging agents.

Fuchs[8] also found that the oxidation of hydroquinone developers by air in contact with an emulsion produced a latent image fog, while the oxidation products in the developer tended to decrease rather than increase fog. He considers that aerial oxidation fog is the result of a latent light image produced by chemi-luminescence which, in turn, is a result of oxidation of the developer in contact with the film. It is more probable, however, that aerial fog is a result of the formation of peroxides which are known to be powerful fogging agents.

In order to obtain uniform development of a photographic image, it is necessary to employ some means whereby fresh solution is constantly applied at the surface being developed, otherwise uneven development is obtained. Probably the simplest procedure for developing short lengths of film or plates is to develop in a shallow open tray.

Agitation of the solution is accomplished either by rocking the tray or by brushing the emulsion surface with a camel's hair brush. These conditions are conducive to rapid oxidation owing to the large surface of liquid which comes into contact with the air.

In the case of processing machines in photofinishing establishments, the film wetted with developer is exposed to the atmoshpere for at least 10 per cent of the total developing time while, with certain motion picture developing machines, somewhat similar conditions prevail which present ideal conditions for aerial oxidation.

Aerial oxidation also presents serious difficulties when motion picture film is developed on a reel when, due to the prolonged contact of the wet film with air, it is usually necessary either to add a desensitizing dye or an increased quantity of sodium sulfite to the solution in order to prevent aerial fog.

Many motion picture laboratories depend upon the circulation of the developer as a means of agitation and conditions are often such that during recirculation the solution is allowed to overflow into a tank situated on the floor below. This overflowing of frothing developer with entrapped air furnishes excellent conditions for aerial oxidation.

The importance of agitation of the developer in order to obtain uniformly developed images is becoming more fully appreciated.[9] Of the various possible methods of agitation, the use of a stream of gas bubbles is effective and economical.[10] Nitrogen gas is to be preferred for this purpose, but is expensive.

The object of this investigation was to ascertain the feasibility of using air as a mean of agitating developing solutions by determining the effect of bubbling air through various commercially used developers on their photographic properties.

Experimental Methods

The following data were obtained by the use of a 1⅞ inch by 70 inch glass tube closed at one end and mounted vertically for holding the solutions through which the air was bubbled. Two liters of solution were used for each test which filled the tube for about one-half the height, the remaining tube portion serving to prevent loss of solution by spattering and frothing.

The air was passed in at the bottom of the tube and the rate of air flow was approximately 5 cubic feet per hour at a temperature of 72 degrees to 74 degrees F. which produced a degree of aeration somewhat more rigid than that which usually occurs in practice.

The air employed was filtered and then washed so as to bring it to near saturation and thereby minimize evaporation of the developer liquid. All connections, stoppers, and stopcocks were of glass so as to eliminate any possible contamination.

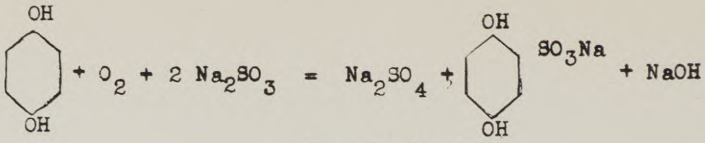
On the completion of a bubbling test, the two liter sample of developer was withdrawn from the tube and used immediately for developing sensitometric strips which had been exposed previously on a Type IIb sensitometer.[11]

The temperature during development was maintained at 65 degrees F. When a positive type of developer was being tested, Eastman motion picture positive film (1301) was used and, for a negative type of developer, Eastman motion picture negative film (1217) was employed.

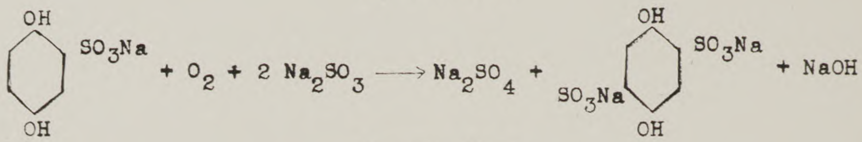
All pH measurements were made on a slide comparator using LaMotte indicators.

Effect of Aeration with an Elon-Hydroquinone Motion Picture Positive Developer

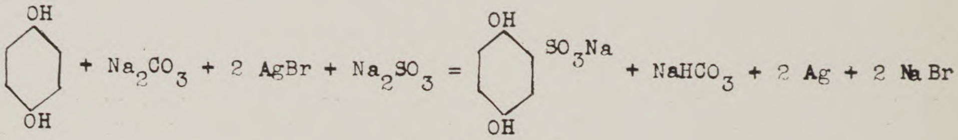
Figure 1 shows the effect of prolonged air agitation on an elon-hydroquinone developer (Formula D-16) with respect to (a) the change in density obtained with equal exposures, (b) the change in solution alkalinity, and (c) the emulsion fog density values. Data are included for (a) fresh D-16, (b) partially exhausted D-16 (175 feet per gallon), and (c) D-16 containing double the normal quantity of sulfite.



Equation No. 1



Equation No. 2



Equation No. 3

Fresh D-16 Developer

The results indicated that with a fresh developer aeration caused marked changes in its developing properties. At first the density value showed a slight decrease with increasing time of aeration, but after a period of 1½ hours the decrease was quite rapid. After 4½ hours the solution possessed no developing properties; the speed loss followed closely the trend in density, and the alkalinity increased from a pH of 10.2 to 11.3.

The increase in developer alkalinity and decrease in activity may be explained partially by the probable reaction between hydroquinone, sodium sulfite and oxygen, with the formation of hydroquinone sulfonates together with 1 mole of sodium hydroxide for each mole of hydroquinone reacting, as indicated equation No. 1.

The first published accounts of the formation of hydroquinone sulfonates in a developer were by Andresen[12] and Bogisch.[13] A large number of investigators have since examined the nature of the reaction products of development including Pinnow[14] who, in 1913, isolated both hydroquinone monosulfonate and disulfonate.

Subsequently, many authors have offered various explanations for the mechanism of the formation of these compounds during development including Rzymkowski[4], Lehmann and Tausch[15], Seyewetz and Szymson[16], and James and Weissberger.[17]

For the present consideration, the most important fact is that sodium hydroxide is formed as a by-product of the oxidation of hydroquinone in the presence of sulfite to hydroquinone monosulfonate. A portion of the monosulfonate probably reacts in the same way as hydroquinone to form the disulfonate with the liberation of an additional quantity of sodium hydroxide, according to equation No. 2.

The by-products of oxidation, with a hydroquinone developer, are therefore sodium sulfate, hydroquinone mono- and disulfonates, and sodium hydroxide. Sodium sulfate in the concentration formed should have little or no effect on development and, according to Evans and Hanson,[18] it is doubtful if the sulfonates play any part in the development of an image.

The total effect therefore is to raise the pH or degree of alkalinity of the developer which, in turn, accelerates the rate of development, but this effect is offset by depletion in the quantity of active developing agents as a result of oxidation.

During the first stages of aeration, the alkali accumulation is sufficient to offset the depletion of developing agents, but since the activity with increase in pH rapidly levels off, the photographic effect of depletion of the developing agents becomes more and more apparent with prolonged aeration.

Seasoned Developer

The curves in Figure 1 also show the effects produced by aeration of a developer which had been seasoned previously with 175 feet per gallon of flashed 35mm. motion picture positive film. The experimental conditions were identical with those for the fresh developer. The rate of loss of density was less than when the fresh developer was employed, no appreciable change occur-

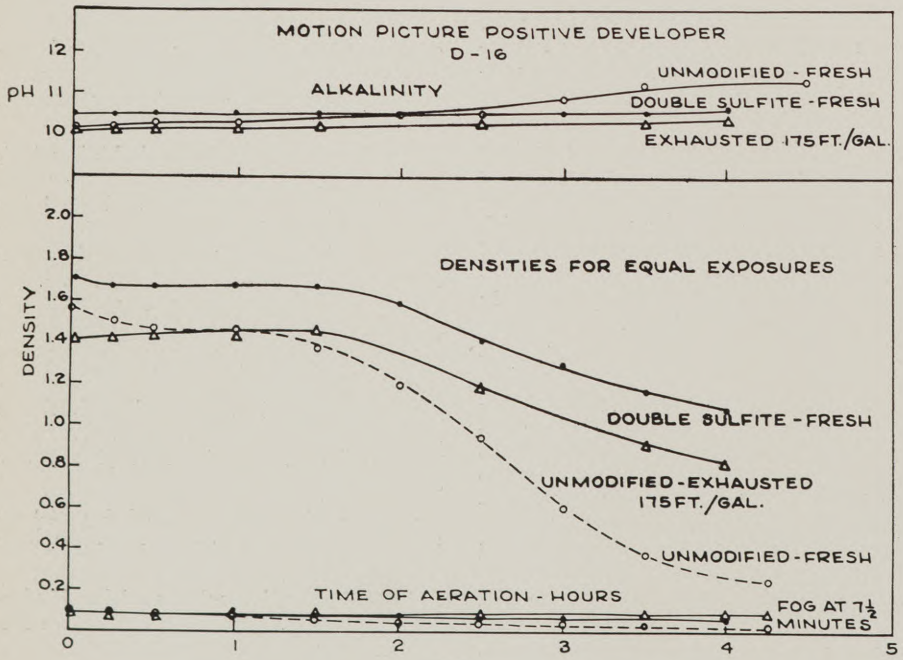


FIG. 1

Figure 1. Effect of prolonged aeration on an elon-hydroquinone developer (Formula D-16).

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11. Jones, L. A.: A Motion Picture Laboratory Sensitometer, J. Soc. Mot. Pict. Eng. **17**: No. 4, 536-558, 1931.

ring until after an initial period of 1½ hours of aeration, after which the density values decreased but not as rapidly as with the fresh developer. The pH of the solution showed only a slight increase.

These observations are quite different from those with fresh developer when the pH increased from 10.2 to 11.3.

No precise explanation can be offered for the difference in behavior between the fresh and seasoned developers, but it is reasonable to suppose that the developer reaction products served as anti-catalysts for the oxidation reaction.

When silver bromide is developed to metallic silver with a hydroquinone-carbonate developer, the following reaction probably takes place as set forth in equation No. 3.

This equation would indicate that a seasoned developer should be of slightly lower alkalinity than one in which no film has been developed because of the exchange of sodium carbonate for sodium bicarbonate and the elimination of the slightly alkaline salt, sodium sulfite.

(To be Continued)

Agfa Photographic Formulas in Booklet Form by Agfa

Photographers who carry out their own processing of sensitized materials will be interested in the new and revised edition of the booklet "Agfa Formulas for Photographic Use," which has just been published at 10 cents a copy.

Including over forty-five formulas which have been developed primarily for use with Agfa Ansco materials, but which have general photographic application as well, the booklet lists formulas for developing, fixing, short-stop, toning, reducing, intensifying and desensitizing solutions.

A separate section of the booklet gives a detailed description in simple language of the chemistry of development, and, in the current edition, presents new information on developer exhaustion and time-temperature compensation.

The booklet is obtainable through photographic dealers or by writing directly to Agfa Ansco, Binghamton, N. Y.

Chicago Cinema Club

According to the May issue of News Flashes, the bulletin of the Chicago Cinema Club, edited by Peter S. Besek, the club was slated to be taken for a ride on May 26 for a full hour. It was not to be on bicycles, either. The ride was to be in two Douglas DC-3s and the price was set at $3.50. As the distance was estimated to be 175 miles, that is only 2 cents a mile. There should be some pictures to show for that trip.

Here is one paragraph from News Flashes: "Starting with this month, an instruction period for members, beginners and others, will precede the regular meetings which are held at our regular clubrooms. The sessions will start promptly at 7:30, one-half hour before the meeting. Each period will be in charge of a man who is qualified to speak on the subject. When our meetings are held outside of clubrooms no instruction period will be held. Beginning movietakers, as well as others, are welcomed to the classes."

Philadelphia Cinema Club

"Animal Photography," as applied to making moving pictures of the inhabitants of the Philadelphia Zoo, was the subject of an interesting talk given by the Zoo official photographer, Mark Mooney, at the May meeting of the Philadelphia Cinema Club.

Mr. Mooney projected two 400-foot reels of 16mm. pictures, illustrated different ways of photographing animals in their cages and out. One reel was a black and white and the other a Kodachrome—both beautifully done and both very helpful to those planning to take pictures in the Zoo.

The club was invited to visit the Zoo on May 26, for a film-exposing expedition.

The showing of members' films followed the guest speaker, the first of which was member John Bessor, who presented a 100-foot 16mm. black and white film called "Home Movies." It was a comedy picture which caused a great deal of laughter, both because of the fine way the film was so comically made and also the keen wit and humor Mr. Bessor displayed in his running comment by way of microphone throughout.

Member Michael Angelo, a Philadelphia cartoonist, handled a very delicate subject exceedingly well in his 400-foot 16mm. Kodachrome picture called "Our Baby." The principal characters were Mrs. Angelo and her baby up to the age of three months. H. E. MOORE.

Los Angeles 8mm. Club

The May meeting of the Los Angeles 8mm. Club was held at the Eastman Auditorium, Hollywood.

President William Wade called the meeting to order and announced the winner of the Slogan Contest. Five winners were chosen. They were Mrs. Taber, Mrs. Barney, Mrs. Brandes, W. D. Garlock and Paul Cramer. The slogan selected was "Los Angeles 8mm. Club, America's First—Now It's Foremost."

Member Clarence Gilley won the candid camera given away by the Winter Store.

The feature of the evening was the presentation of two versions of Debussy's "La Mer," a pictorial mood in music produced by Ovady Julber, prominent Hollywood musician and Member Lewis B. Reed without collaboration.

The remainder of the evening was devoted to the screening of members' films, produced by Messrs. Garlock, A. Smith and Cornell. It was a good show all the way.

LEO CALOIA, Secretary.

MELLOR AND DAVEY WIN PHOTOGRAPHIC AWARDS

WILLIAM MELLOR, A.S.C., and his associate, Allen M. Davey, A.S.C., were given the photographic award by the Hollywood correspondents' poll in the Hollywood Reporter for their work in Paramount's Technicolor "Typhoon," first shown during April.

Gordon Jennings, A.S.C., who was in charge of the special photographic effects, was not mentioned by the correspondents. Sometimes the special photographic effects may be bits. In this case, however, they were major spectacular parts of the picture, and undoubtedly Mellor and Davey would have been first to suggest Jennings' inclusion in the credits.

As this magazine says in its review of the subject, the picture is a photographic rather than a dramatic one. It is one that should be seen by all amateurs, or professionals either.

There were two black and white subjects that ran second and third. Russell L. Metty, A.S.C., was second for his photographing of "Irene," RKO. The third place fell to Clyde De Vinna, A.S.C., for MGM's "Twenty Mule Team."

The best director was declared to be Carson Kanin for RKO's "My Favorite Wife," which also by the way was declared the best picture. The best actress performance was given to Irene Dunn for her work in the same picture, and Cary Grant was awarded the best actor performance for the same film. Similar awards went to the same production for Bella and Samuel Speewack for their screenplay and Granville Bates for the best incident performance.

May Robson took the honors for the best supporting actress performance in RKO's "Irene," Eddie Anderson for the best supporting actor performance in Paramount's "Buck Benny Rides Again," Anthony Collins for the best musical score with "Irene," best original song Gaucho Serenade in Warners' "It All Came True," and Paramount's "The Biscuit Eater" as best general feature.

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Overcoming Difficulties in Putting on Amateur Shows

By DUNCAN MAC D. LITTLE

THE Eleventh Annual Show of Amateur Motion Pictures went "On the Road!" True, it was for only a weekend, but the first engagement was in Hanover, N. H., for Sunday afternoon, two shows and a "conference" in the evening, and the second was in Durham, clear across the state, for one show on Monday evening.

It does not sound like much of a proposition, but we found possibilities for trouble lurking everywhere and every moment.

Our equipment consists of a folding screen, 8 feet wide, a 1200 watt projector supplemented by a special electric phonograph, speakers and amplifier, besides which we carry speaker cords and electrical connections (a hundred feet of both of these), etc., in another case, with naturally the necessary cases for films and records.

This makes considerable to transport and to keep checked at each handling.

However, we have become accustomed to doing this, for times without number we have carried it all, hither and yon, for single shows, or for, say, three or four in a ten day or two week trip, to be arranged at our own convenience.

But working on a definite schedule and such a close one is completely different. Nothing could be allowed to go wrong or to miscarry.

Sifting Figures

We made inquiry and learned that our theatre in Hanover had alternating current, but that the college building (in one of which the "conference" was to be) had direct. The "throw" in Hanover's Nugget Theatre was 125 feet to a 22 foot screen. This was bad!

At Durham we found alternating current, but word of this did not come before starting on our "Road Tour," so to our equipment was added a "rotary converter" in case of need.

All we knew about Durham was that there was a screen—we did not even know how good.

With that information we went earnestly to work, for we had, once before, projected at a distance of 105 feet. True, it was on a poor and homemade screen, but the results had not been such as to make one proud of his job.

As usual, an appeal was made to Messrs. Bell and Howell, and as usual, they responded manfully. Without their cooperation the show in the Nugget Theatre, at Hanover, would have been, at very best, poor. As it was, the results even on that large screen at 125 feet, were excellent.

Informal shot of Mrs. Little, surrounded by and swathed in bearskins in a sleigh in Northern Quebec.

Through their cordial cooperation we were able to carry with us the new Filmo-Arc projector. This added four sizable and very heavy cases to our already bulky equipment. This equipment was carried in a station wagon, which was well filled with it all, and the three of us comprising the "staff" traveled in our own car.

For the occasion, the "staff" consisted of Dorothy R. (Mrs. Duncan MacD.) Little, business manager; Frank Tanham, projectionist; and your (not too) humble scribe as director and "entrepreneur."

It was too bad, but at the last moment our director of music, Elfriede Boerner, found herself unable to make the trip. This put an extra duty upon the director, who had both to make the announcements and "run the music," which under normal conditions means addressing the audience from the platform and then a quick dash to the turntable and work.

We left New York after luncheon on Saturday and took our time on the road, stopping at Greenfield, Mass., when night was beginning to overtake us and continued our journey on Sunday morning.

Thinking that we had plenty of time before us, and understanding that the show was to begin at 2:30 P. M., we rolled into Hanover at about 11, to find that the time had been changed to 1:30, so as to run the two shows and clear the theatre in order that it could be ready at 6 for "Gone with the Wind."

Amateurs on Spot

That meant getting right to work, for we were to project from the booth and must not only set up the as yet untried arc machine, but also we must find a way to set up our phonograph among the regulation projectors, in order that we might, through one of the "ports," watch the screen for music cues and yet not be too much in the way of those projectors. For they also would be used, for the day's program was to include, for a starter, Donald Duck, followed by the March of Time, "Finland," and then our amateur films.

These made another big hazard, right across the fairway, and "Gone with the Wind" to follow. It surely was putting the amateurs on the spot.

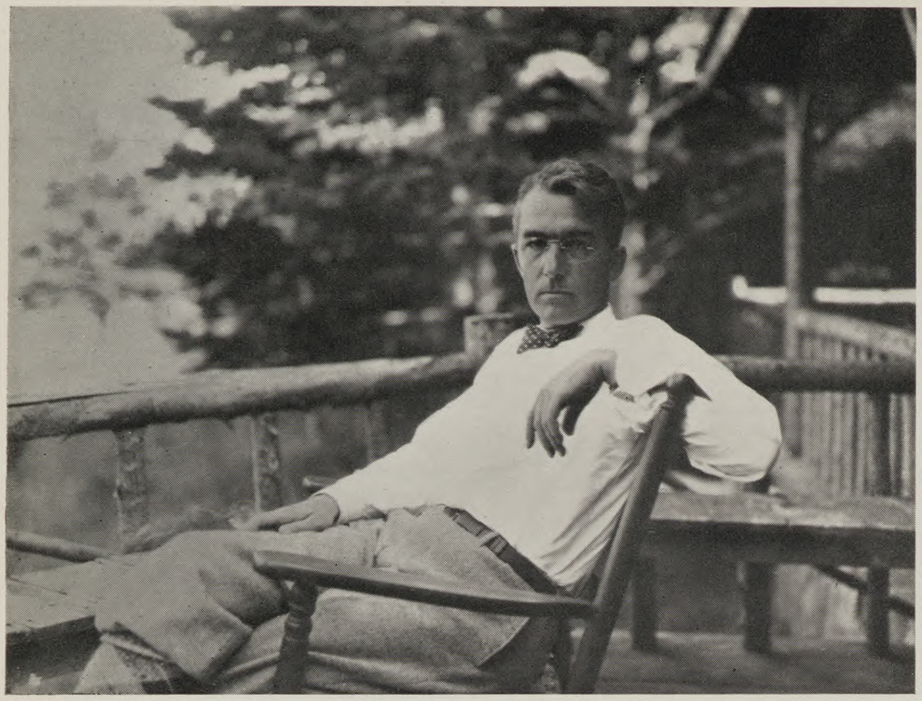
The arc machine went together very simply, after a few mistries, and we plugged in to a socket that was indicated for us.

Bang! — It went dead.

Another socket was tried with the same result; and a third—! It began to look extremely bad.

Finally after some telephoning the local electrician (who services the theatre) was located and he came to the rescue.

He re-fused the lines—the main fuse box having been locked and he apparently having the only key—and he showed



Snapshot of Duncan MacD. Little taken a couple of years ago on the Littles' Nova Scotia porch.

us that those lines had been fused for only ten amps.

But before trying again, it was decided to line up the 1200, just in case —and for some reason unknown, on starting that machine—

Bang — the lamp went dead, although the motor continued to operate.

A new lamp was tried. Result the same.

Work for Staff, Plenty

So, having only a partly used and slightly blackened lamp in reserve, we sought a new outlet, and having plenty of what the Englishman calls "flex," we drew our current from a distant lamp socket.

That worked all right, but the poor bulb in the projector did not produce an image on the screen that would satisfy us, and we were fearful of the sophisticated undergraduate audience who would first see Donald Duck and a March of Time before our amateur films.

The arc machine must work and must be kept working.

Well, as events proved, it did, and from that angle all was well.

And it was extremely well that our party consisted of five. For the arc machine calls for the entire attention of one person, and with none of us ever before having seen more than a picture of one, it took the careful attentions of two—one to "sit on" the focus and the other to watch and nurse along the arc itself.

Then due to the cramped and unaccustomed position of the phonograph, the records had, perforce, to be handed, one by one, to the operator of that machine, and be received back the same way, when each was finished.

This left the fifth person to rewind the films and rearrange the records in needed order, for we would begin the second show immediately the first one was done, with no intermission whatsoever, except that again would come Donald Duck and the March of Time.

Bouquet for Projectionist

But it all worked, and largely due to the aid and assistance volunteered in a most cordial and whole hearted way by the theatre projectionist—a medical student at the College; and an amateur, too, who works, as we do, in 16mm.

He was a "Rock of Ages" for the visiting troupe, and we hereby offer our sincere thanks to him.

It was difficult, assuming we might succeed at all, to convey to the audiences anything of the background of the various films, or of the idea and ideals permeating our Annual Shows. To have your only contact with your audience by means of a microphone and loud speaker, with the house dark, is hard. It might be that no contact at all was established, but we hope that we succeeded somewhat.

But you have to take things as you find them, on such a tour. It is like dueling as opposed to fencing—the buttons are off the foils.

No allowances can be asked, and you and your show must either go across because it is a good show, or you must go down, if it is not good enough to carry its own weight.

We could only hope that ours went across.

Competing with GWTW

It was a weary group when 5 o'clock came and the shows were done. Hastily we disassembled our equipment and got out of the way of the evening's big show, "Gone with the Wind." At any rate, we had shared the screen that day with a real Top Ranker.

The conference of the evening was something quite different and with only a small number in attendance. The aforesaid top-ranking picture undoubtedly drew most of the possible group.

However, to this small gathering, we were able to tell a bit about the plans and history and aims of the Annual Shows, and, in addition, some odd bits from our own experiences with both camera and projector in this country and in Canada.

Next morning, with the undergraduates, we attended a class session of the college "Script Writing" course, and then started our journey to Durham, about 130 miles distant.

Our way led across and around the more southerly of the White Mountain group, and gave many opportunities for picturemaking, both still and movie, for it was a rare day and perfect "sugaring" weather. However, we were not on a picturemaking expedition, though we deeply regretted lost opportunities.

Arrived in Durham in midafternoon, we sought the office, in the University Administration Building, of the "Lens and Shutter Club," our sponsors here, receiving a warm and friendly greeting and being promptly taken to meet the Dean.

Cold Water

That gentleman quietly and completely took all the wind from our sails by announcing that for his own part he entirely disapproved of the whole idea of our Show, but "that the boys and girls had greatly desired it, so I let them go ahead at their risk, and here you are, so let's see what can be done for you and about you."

Well, to make a long story short, he took us to a photographic exhibit that had been arranged by the faculty and undergraduates, to be sort of a concurrent affair with our Show, and then he escorted Mrs. Little to a tea arranged in her honor, telling us men that we could come or not as we wished.

But for our part, we wished to get set up before dinnertime, and then have no worries until the Show should actually get underway.

So we were taken to the auditorium, and found a seventy-five foot throw to a sixteen foot screen.

It was well that we had come ahead of time, for here it was found that we must draw the "juice" for projector, amplifier and phonograph from sockets behind the screen, calling for two lines each more than a hundred feet! But, aided by what the "Lens and Shutter" boys had and could borrow, our supply of wire worked, and everything was soon ready. Soon, because we had at least two able volunteers for every job suggested.

Again Full House

And they used their heads, those boys. Early we had spoken about wanting a

(Continued on Page 286)

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Practical Amateur to Beginners: Lens Equipment Characteristics

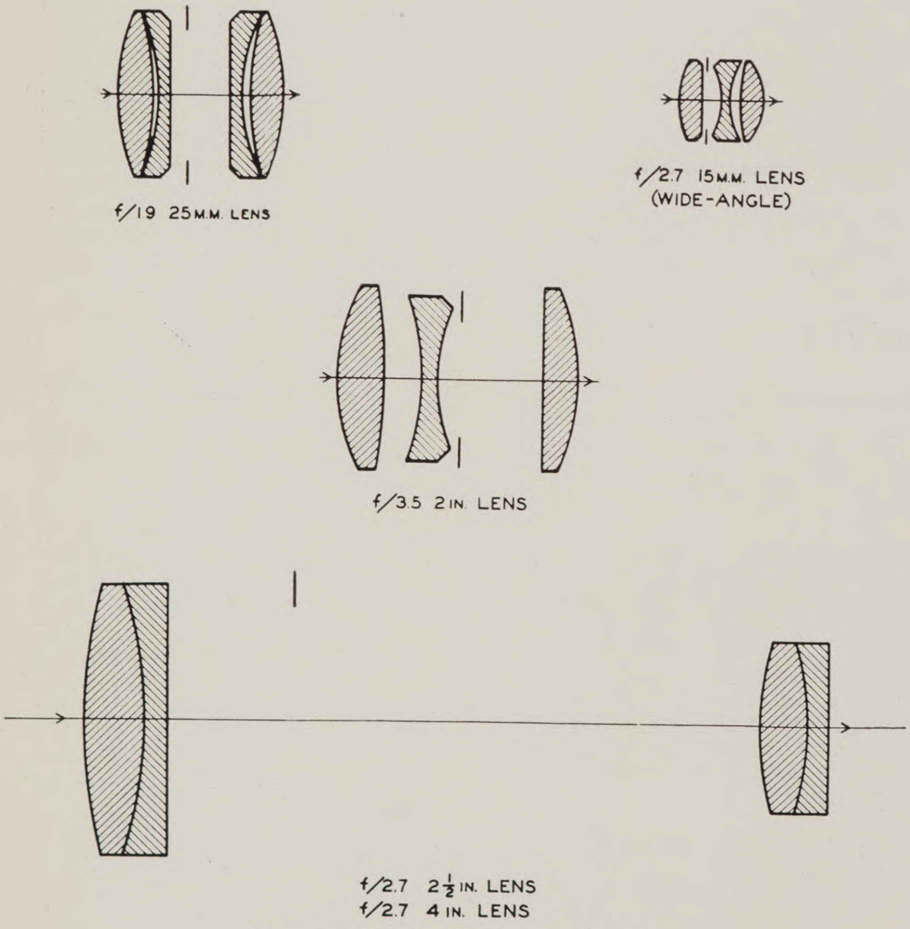
By JAMES A. SHERLOCK,

Vice President Australian Amateur Cine Society

PART I

THIS is not a story of the Laws of Optics or the production of cine lenses, but rather an attempt by a practical amateur cinesmith to explain to beginners and other amateurs who are striving for better pictorial quality in home movies why they won't go far if they don't know the characteristics and limitations of their lens equipment.

The cine lens is an exquisitely designed precision instrument which has made practical home movies possible, and is the most important single part of a cine camera. Therefore, it should be of the highest quality in design and workmanship. Its price is not as good a guide to its quality as the well-known names of several manufacturers who produce cine lenses capable of recording brilliant theatre-quality pictures having sharp definition and a flat field extending over the full surface of the picture.


f/19 25M.M. LENS

f/2.7 15M.M. LENS (WIDE-ANGLE)

f/3.5 2IN. LENS

f/2.7 2½IN. LENS
f/2.7 4 IN. LENS

16 M.M. CINÉ-KODAK LENS TYPES

These people have a world-wide reputation, and even their sometimes undervalued f.3.5 fixed focus lenses are of all round excellence, and owing to the simple operation of these lenses they can be thoroughly recommended to beginners.

Cine photographic objectives are never made of a single piece of glass. They require a combination of several different types of glasses all ground to special shapes and sizes.

High class cine lenses cannot be produced cheaply due to the incredible accuracy required in their design and manufacture. It is essential that the amateur realize this fact before money is wasted on cheap inferior lenses which to the uninitiated are similar in appearance to the modern precision made cine lens that has reached such a remarkably high standard of perfection.

Years of research by optical scientists have resulted in them reaching the pinnacle of accuracy humanly possible when they produce a cine lens containing several separate glasses each ground and polished to an accuracy of half a millionth of an inch.

Herewith are diagrams showing elements of several Cine Kodak lenses which are made from the finest optical glass of exceptional transparency. The exact curvature for these elements, the refractive index and thickness of each glass, together with the exact air space between each element, has to be calculated to an infinitesimal tolerance by lens designers before their computations can be executed in metal and vaious types of glass.

Cine lenses are classified by three factors: focal length, speed rating and lens mount.

FOCAL LENGTH

Technically the focal length of a lens is the distance from the optical centre :X: of a lens to the film, but is generally accepted as the distance from the centre of the lens to the film. Actually it defines the boundary and perspective of a scene.

*Technically, the optical centre of a lens is the point where light rays converge and pass through the glass without being bent or affected.

Most cine cameras are so designed that lenses of various focal lengths are interchangeable, while the best designed camera for serious workers is one with a turret holding several lenses that can be interchanged in a fraction of a second, but, of course, this extra equipment adds to the cost and weight of a camera.

Since the ratio of focal length to size of film is about the same in each case, the results of a half-inch lens on 8mm. cameras is comparable with a one-inch lens on a 16mm. camera or a two-inch lens on a 35mm. professional camera. All these lenses are recognized as standard and give more pleasing perspective :X: than normal lenses supplied with still cameras. Scenes photographed

(Continued to Page 272)

Bell & Howell's New Hi-Set Tripod Has Many Features

Said to be ideal for 8mm. cameras and priced in keeping with the economical 8mm. equipment, the new Hi-Set Tripod just announced by Bell & Howell embodies many features new in tripod construction. Extraordinary height, sturdiness, quick-action legs, and lightness in weight characterize the new unit.

The Hi-Set is chromium plated overall, and when the legs are fully extended it stands 64 inches high, said to be far and away the tallest lightweight tripod. Weight is only three pounds without pam-and-tilt head, another pound with head. Folded, without head, the tripod is only 25 inches long, 2 inches longer with head.

Great Convenience

Bell & Howell claims remarkable convenience in extending and folding the tripod legs. With no screws or clamps to release, the rigid, tubular legs are pulled out, automatically locking firmly at any of twenty different heights. To fold the Hi-Set the legs are simply pushed toward the head, and the photographer need not stoop over to do it. B&H goes on to state that although the tripod cannot possibly be collapsed by bearing down upon it when it is set up, the legs readily telescope when pushed toward the head. Sliding collars on each leg, which must be actuated by hand, control this convenient feature. Both pam and tilt movement lock independently of the other, a full 90 degree tilt is permitted, and an entirely new feature is provided in the gear-driven camera screw. Just turn a large knurled knob and the camera screw rotates right into your comera.

The price of the Hi-Set is $8.75 for the tripod only, and $12.50 for the tripod with pam-and-tilt head. The head alone, which may be mounted on any tripod having a standard screw, is priced at $4.25.

The new Bell & Howell Filmo Hi-Set Tripod combines extraordinary height, rigidity and ease of use.

LET'S HAVE AN AWARD FOR COLOR BY ITSELF

FOR twenty-six months the Hollywood Reporter has canvassed the opinions of the correspondents assigned to Hollywood as to the best picture, the best director, etc., to the extent of a dozen bests, based on the subjects previewed during the preceding calendar month. Among these tops for bests, as the correspondents judge it, is that for photography.

Now photography is a subtle thing. Naturally those able to judge it for quality are in a minority, how vast a minority only those best able to create it are able to estimate. But, it may be advanced in extenuation for the right of the non-technical to give what ordinarily would be technical judgments, the same may be said of judging the best musical score, the best screenplay, the best director.

The correspondents hardly will defend a statement that the men employed on color pictures are more skilled in their craft than the men who photograph black and white. They will not deny the probability that the men whose work up to this time has been mainly or completely given over to black and white are on equal terms with those whose work is now half and half or wholly restricted to color.

Yet for five out of the last six months the correspondents have awarded their decisions for best photography to men who photographed in Technicolor. That to all intents and purposes is closing the award decision to thirty-nine out of forty men who photograph major pictures. Which is not, it will be conceded, as it should be.

The Academy some time since decided to make two awards for photography. Accordingly this annual bouquet now is declared for black and white and for color. If the Reporter should decide to make two decisions in line with the big Academy award it could declare one for black and white and one for color, in the event there were enough color pictures to justify a contest.

The day is approaching, faster than some of us believe, when pictures in color will predominate fully as much as do the black and white today. There is no question that as between two pictures, one in color and one in black and white; with exposure, composition and all the contributory elements of artistry evenly balanced, the greater appeal will ride with color. There will be exceptions to this belief, but they are negligible.

Until that day arrives, whether it be soon or later, let us be fair with the men who continue to shoot the straight black and white, as forbears and contemporaries have been doing for a hundred years.

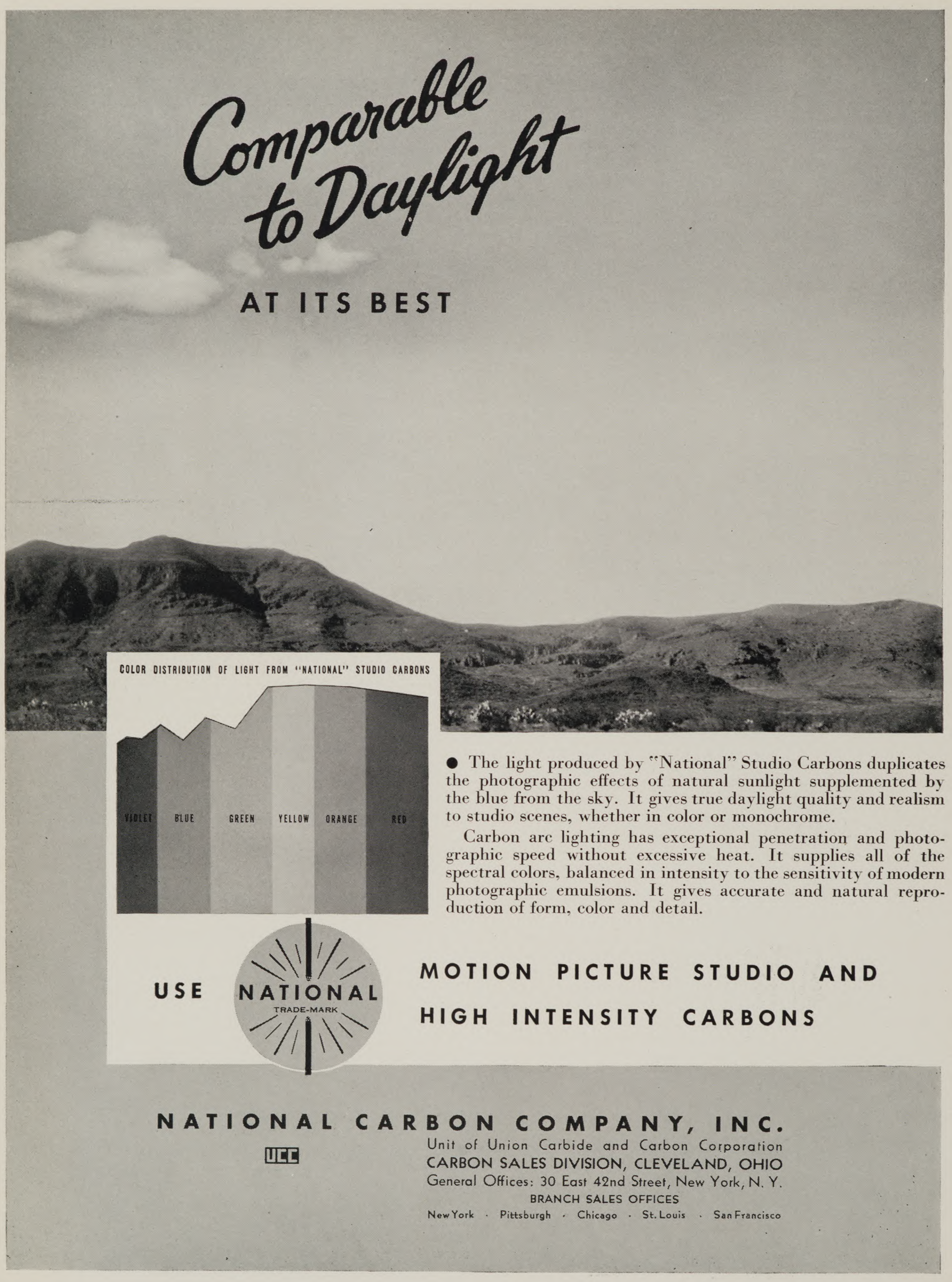
Let us recognize the man who through days of photographing a black and white picture perhaps sombre and even sordid in mood, with only a few vagrant rays of sunlight to lighten his work and his heart, yet steadily plugs along and comes through with a subject that is of unusual quality—acclaimed by photographers conscious of the infinite thought and skill bestowed on it, greeted by the unconscious non-photographers silently yet satisfyingly.

And also let us give him an even break by making an extra award if circumstances justify. Don't close the door.

Agfa Announces Tray Clip

The new, inexpensive, Agfa "Tray-Clip" thermometer is a darkroom accessory that every photographer who develops in trays or small, open tanks will want to have. Furnished on a stainless-steel support with a clever bend at the top, this new thermometer has been designed with the realization that to be effective and useful a thermometer must be in the developing solution, conveniently placed but not in the way, throughout development.

The new "Tray-Clip" Thermometer answers these requirements, since with its exclusive clip-on feature it can be attached snugly to one side of the tray or to one end of a small, open developing tank, where it can be quickly seen without interfering with the handling of films turning development.



● The light produced by "National" Studio Carbons duplicates the photographic effects of natural sunlight supplemented by the blue from the sky. It gives true daylight quality and realism to studio scenes, whether in color or monochrome.

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This unusually fine still of the Sacramento Movie Forum at its last meeting was exposed by Bob Handsaker. We commend it to the reader's critical examination. Demonstrating the camera is Bill O'Dogherty of San Francisco, who has been successful in installing an electric drive on a Model 60 Eastman as well as an electric windback. Various members of the club brought to the meeting their favorite gadget. The evening's program was completed by the projection of the Eastman picture, "Highlights and Shadows." The president of the club, Harry A. Downard, Jr., is shown in the first seat in the front row.

Metropolitan Council Holds Fifth Annual in New York

This year the Metropolitan Motion Picture Council, an organization interested in all phases of the movies, chose Amateur Production for the theme of its fifth annual meeting, held at New York University's auditorium on April 25. Donald Eldridge of New Haven talked on "The Production of School-Made Films," and he showed "The Sentinel," a movie about the New Haven High School newspaper, produced by students of that school.

Mr. Eldridge, head of Visual Education for the New Haven Schools, was assisted by three students giving demonstrations of sound recordings synchronized with the film.

Duncan MacD. Little, famous for his international film parties, spoke on "What Amateur Films Have Brought Me." His film called "Making of Canadian Homespun" was exhibited. Robert Gowen of the Gowen Laboratories in Ossining, N. Y., spoke on "Community Filming" and showed "The Birth of St. Mary's," a film picturing the history of that church and produced by its members.

The production committee of the Metropolitan Motion Picture Council, which was responsible for this meeting, is composed of Eleanor Child, Greenwich, Conn., chairman; Frank Grunell, West Brighton, N. Y.; Donald Eldridge, New Haven, Conn.; Miss Frances Flanagan, American Institute, New York; Alexander Lewis, Central High School, Newark, N. J.; Duncan MacD. Little, International Film Party, New York; Dr. F. Dean McClusky, director of Scarborough School, Scarborough, N. Y.; Miss Esther Martin, advisor East High Photoplay Club, Newark, N. J.; Kenneth Space, Harmon Foundation, New York, and Miss Hilda Wehberg, Educational Film Institute, New York University, New York.

Bell and Howell Booklets Brings Equipment to Date

Of interest to all owners of Filmo 16mm. projectors and of Filmo 70 cameras are the two "conversion" booklets just issued by Bell & Howell. Illustrating, describing, and pricing all new features which may be added to older models, these booklets will give you an excellent idea as to how you may bring your camera or projector up to date.

The projector booklet devotes four pages to a discussion of increasing illumination by conversion to use modern high-wattage lamps.

In the camera booklet the hand crank for making lap dissolves is discussed, as are refinishing, positive viewfinders, changing to different speed ranges, attached winding-key, etc.

Bell & Howell will be glad to send these booklets to Filmo owners if the serial number of the camera or projector is stated in the request. Address Bell & Howell Company, 1801 Larchmont avenue, Chicago, and ask for the "conversion" booklets.

THE PARKERS

PART II

IN the course of the Parkers' fifteen-day stay in Mexico City, of which the first part of the story was printed in the May issue, Mr. and Mrs. Harry and Harriette Parker of Los Angeles started one morning for Xochimilco, a Federal district of 11,000. It is an intriguing place, with canals, mostly about thirty feet wide. The location is known as the Flower Gardens or Floating Gardens. The canals are bordered by trees and gardens. The populace raise flowers and sell them to tourists from canoes.

"We rode in a flower-ornamented flatboat about twenty feet long," said Mr. Parker, "and it was operated or pushed by a pole in the hands of an Aztec Indian. He was indeed picturesque. This being Sunday, a great crowd of Mexicans and tourists were riding in the balmy sunshine. Many were eating luncheon at tables on the boats. Incidentally there was much drinking and merrymaking generally.

"There were dozens of these boats occupied by musicians. For only 4 cents U. S. they would come alongside any boat and play. Sometimes they are hired by the hour or day. Also the flower, soft drink, pulque and other canoes would pull up alongside of us and try to sell their wares. We rode for about four hours at a cost of 5 pesos, or 80 cents U. S., and thoroughly enjoyed the outing.

"The camera was plenty busy during these hours, in which fine singing and some dancing were interspersed with an occasional jam or collision. The best of humor prevailed, however. There were some restaurants along the line, with big crowds at the terminus, a small village named Nativitas."

Bull Fights Make Film

The bull fights supplied the Parkers with many feet of film. The Plaza del Toros open-air stadium holds 20,000 persons. The general admission tickets on the shady side cost 7 pesos ($1.12 U. S.), while on the sunny side the same classification rated at 4 pesos. The Parkers decided to fool the scalpers peddling the reserved seats by obtaining perfect seats on the shady side of the general admission section. The scalpers are clever, really, and sometimes secure many times the scale price.

The fight started at 4 p.m. with a colorful parade. Autos filled with girls in Spanish costumes made a picture really fetching. They were followed by the ritualistic parade, or quadrilla, of the matadors, each with his five graded toreadors, and then came the mounted picadors. To these Mr. Parker awards the real palm for bravery. Following the many attendants came the teams of mules employed to haul the vanquished bulls off the field and to a happier hunting ground. It was all a real show.

There were five fights. The bulls were smart, lively animals. Several hundred soldiers with loaded rifles were on hand for an emergency. Police also were plentiful. There was a momentary diversion from the ring when one of the latter stationed near the Parkers pulled in a careless pickpocket.

It was a day to be remembered. One of the things that will remain longest in the memory of the Parkers was the raving, hysterical mob.

Fortin Tropical Spot

It was 5:30 p.m. when the Angelenos arrived at Fortin, 225 miles south and east of Mexico City, truly a valley tropical spot. Bananas, oranges, mangoes, in fact, all tropical fruits; flowers, gardenias, hibiscus, and everything fragrant surrounds the Spanish style Hotel Ruiz Galindo, set in a square block of gardens.

The ceiling of the room was 20 feet high. As night fell the atmosphere was dampish inside. As a measure of precaution the Parkers had carried along with their impedimenta from Los Angeles a set of blankets for an emergency, as well as various fruit juices, etc. They went after the blankets right there and found them worth the freightage.

The house is under German management, as are many of the hotels

Lots of babies in Mexico.

Puebla Hotel, built in 1726.

Workingmen with serapes (overcoats are unknown).

Cathedral near Cordova.

TOUR MEXICO

in Mexico. It was the first American plan house with which the Parkers had been in touch.

On this trip out of the city the services of the guide were of particular value. "A tourist just can't get along down there without a competent guide," declared Mr. Parker with emphasis. "Even if we had a perfect command of the language, the roads, the ways to go, and the speed laws, the customs are so different. To a tourist the police are lenient. To a guide who is driving they are strict.

"To get out of Mexico City or around it is more difficult than in any city in which we have been," continued the world traveler. "The police run the traffic by standing and holding their arms in different positions. There are few traffic signals, as such, and all in all it is the craziest city in which to drive a car—every one is tooting and trying to cheat the other driver."

"Society" Dines Late

Speaking of the dining customs in Mexico, Mr. Parker recalled at Puebla it was 1 o'clock before they could be served. At night at the hotel it was 7:30 before they were served, and when they left the dining room at 8:45 some of the well-to-do Spanish and Mexicans were just coming in. Mr. Parker suggested that somehow he had a feeling, intangible perhaps, that his early dining hour had in the minds of some of the residents put his social standing under something of a cloud.

For an hour and a half that day on the trip south the Parkers had an experience in a desert sandstorm. It was necessary to keep the car tightly closed.

For the two hundred-odd miles from Mexico City to Fortin, or for most of the trip at any rate, the road ran into altitude. At one time the Parkers were above 11,000 feet. Most of the time they were in sight of Mexico's two highest mountains, Popocatepetl, 17,876 feet, and Ixtaccihuatl, 16,960 feet.

For the benefit of any who might contemplate making this particular trip, it is stated that a short time before coming into the little village of Fortin the road drops 2000 feet in a very short distance. As Mr. Parker expressed it, that less than half a mile descent contained the sharpest turns and steepest grades he ever experienced.

German propaganda in Mexico is described as most scientific and subtle. The wealth of the United States as a nation and the comparative poverty of the mass of the Mexican people makes possible the circulation of many stories to willing ears. The fact remains the best schools in Mexico are German. Practically all new buildings in Mexico are German, modernistic in design. Nearly all hotels are of German ownership and management.

In driving over Aculdzingo Pass, which Mr. Parker describes as steep, he tells how all buses, trucks, cars, etc., drain radiators and fill with cold water before starting the ascent. Changing water, his own car was kept in high.

Pictures from Belfry

The Puebla Cathedral was described as tremendous in size, being capable of swallowing a half-dozen large-sized churches, seemingly near St. Peter's in Rome. The Parkers climbed to the belfry, from which they took pictures of the city. The bellkeeper was 87 years old, an Indian who looked good for at least another twenty-five years. The bells were ten in number and the largest about ten feet in height. Their great weight and the distance they had been lifted were some of the many things the tourists were wondering about.

Mr. Parker is enthusiastic over Cuernavaca. "In the many trips we made away from Mexico City Cuernavaca to me is the nicest and best city we have visited in Mexico," he said. "There's an abundance of fine homes, gardens, flowers, etc. Some of the big government men make their homes here, while others spend only their weekends. Here I found the best meal in Mexico since I left home."

On the Sunday preceding the day the Parkers started on their

Caballeros in Chapultepec Park.

Street scene.

Cooking tortillas.

Hand painting tile.

return north they first visited Chapultepec Park, an area of about three by four miles. They witnessed a demonstration of the love for the outdoors on the part of the Mexicans. Surely they patronize the public parks, of which there are many. A roller skating as well as a bicycle Marathon was on through the streets leading to the main park. Band concerts at 12 o'clock noon were well attended, too.

Those filmers who are seeking the striking and possibly the spectacular may be interested in the great number of horsemen present in Chapultepec. They are arrayed in all their equestrian regalia. They take advantage of the very fine bridle paths in the park every Sunday, especially in the middle of the day. Many have leather suits of brownish color. The style is strictly Spanish, unlike any other costume or country of which Mr. Parker has knowledge.

Again they visited the Mexico City Cathedral, the largest in Latin America. The great structure is described as being in a marvellous setting and covering a couple of city blocks.

Three to Two

Competent authorities compute the proportion of the sexes from the United States visiting Mexico as three women to two men. There were so many from the United States present in the southern country last winter the surplus were being accommodated in private homes.

A farewell visit was paid to the bull ring, which was found if anything extra exciting. A matador was knocked down, miraculously escaping. Others were in the narrowest of pinches. Two horses were bowled over and gored. The tourists were nervous wrecks at the close of the show.

To the Parkers a big part of the show was the presence near them of the anti-Cardenas presidential candidate, Almazan, fine looking and popular. He was surrounded by about twenty-five soldiers or police, who were watching like hawks for an enemy with intent to kill. Two weeks before that date an attempt had been made to assassinate Almazan.

In a couple of years the residents of the western United States will have a decided advantage on mileage in their trips to Mexico City. It is planned the loop now under construction between the latter city and El Paso will be completed, making a cut-off of considerable importance. The Parkers logged 644 miles from El Paso to Laredo, the point in Texas at which they left the United States. As Laredo is a sharp southeast from El Paso it will not be all saving, but it will be important.

Trip Home

On the first day the Parkers cleared 383 miles, stopping at Mante for the night. During the day eighty-three of the miles they made were on winding mountain roads at an altitude of from 6500 to 8300 feet. The air and sun were perfect. The roads ran up hill and down dale through scenery Mr. Parker described as stupendous.

Thirty-seven men are employed in the United States side of the Laredo Bridge customs station, showing the growth of the Mexican tourist traffic. The inspection was most particular. Some of the customs men seemed fatigued, or at least short-tempered.

Between Mante and Laredo all morning the car bucked a hard wind. That experience and the sandstorm encountered on the trip to Fortin were the only unpleasant occasions noted by the tourists. But coming into Laredo that afternoon they somehow made up for the loss of time earlier in the day. They left Monterrey at 4 p.m. They arrived at Laredo at 6:15. The distance is 152 miles. Figure it yourself. But 46 miles of that distance immediately south of Laredo was straight.

Mr. Parker has a word of warning for those who sometimes use trailers. He declares trailers are absolutely impractical on a trip to Mexico City. The 83 miles in the mountains south of Valles is too much of a task for any motor to pull a trailer.

Asked if he really enjoyed his trip into Mexico Mr. Parker responded: "Yes, we did. But I don't mind telling you that you experience a mighty swelling in the chest when you cross the Laredo Bridge and realize with greater force you are a citizen of the United States."

DU PONT ISSUES THREE TYPES MINI FINE GRAIN

The Du Pont Film Manufacturing Corporation announces the introduction of Superior-1, Superior-2 and Superior-3 35mm. films. These three films afford the miniature camera owner a wide choice of speed. All have fine grain size. The color sensitivity of each is fitted to the particular lighting conditions usually encountered in its use.

Superior-1 is intended for outdoor use. It is extremely fine grained, has a long scale gradation, and is specially color sensitized for exposure by daylight. Areas of sky register as printable densities without the use of a filter. The speed is about the same as the Superior Pan formerly supplied for miniature cameras.

Superior-2 is twice as fast as Superior-1. This recommends its use outdoors in cameras having slower objectives regardless of weather conditions and indoors for scenes and portraits with controlled lighting. The color response is corrected for an incandescent light source. The grain size, while not quite as fine as Superior-1, is distinctly finer than the old type Superior Pan.

Superior-3 is a high-speed film intended primarily for interior use where lighting is not controlled. Its color sensitivity takes full advantage of tungsten illumination. The grain size is about the same as the former Superior Pan. Forced development increases the effective speed of this film, making exposures possible at a Mazda rating of 100 Weston.

All of these films will be available by June 1 in 18 exposure magazines, 36 exposure magazines and spools, bulk lengths and refills.

When He a Shooting Goes He Really Goes to Town

At a recent meeting of the Peninsula Cine Club of Pacific Grove, Cal., M. G. Winterton of the Tacoma (Washington) Cinema Club gave an interesting talk on the activities of the Tacoma club. Peninsula Club members were much interested in the tripod displayed by Winterton. His tripod head is equipped with a mount that is provided with attachments for three cameras, simultaneously ready for action. It matters not whether he wants to shoot an 8mm., a 16mm. or a still. They are all right there in front of him.

Uncle Sam Builds Camera Car That Will Stand Up

By REED N. HAYTHORNE, A.S.C.

GOVERNMENT cinematographers work under all conditions and are called upon to perform almost miracles with very limited facilities under rigid regulations and at extremely low costs. The subject matter specialists in the various departments are experts in their fields and there are many of them.

These experts are consulted on all matters singly and in groups and all of them must be satisfied in order to attain the highest possible results. All matters are treated with the same amount of thoroughness no matter how large or small they may be. These specialists can recognize and classify anything, and if they can't do it they find someone who can.

At one time or another the moving picture is an essential in all branches of the Government and is used either for research purposes or for educational work in the field in all parts of the United States and even in other countries. The pictures are produced in such a manner that they may be used indefinitely. There must be no dates of any kind that would date the time of production.

Theories and principles of agriculture change very little as does most work in the Government, and the extent of the work is unknown to the average person.

Always a Market

The Government will always be a market for educational motion pictures. It could be classed as the largest institution of higher education and research in the world. It is needless to say that motion pictures are used, but not to the extent that they should be. Slowly the executives are becoming aware of the importance of the scope of motion pictures and some day films will come into their proper realm.

One far seeing executive informed me that he wished to do something with motion pictures and he wanted to do it the best way possible. He told me of his desires in the form of production ideas. It was as if I were listening to a cameraman's dream.

He certainly was a stimulant to me and here was really a new field with tremendous possibilties. Work, as I could see it, was to be perpetual, constant, full of new problems and very interesting.

It was decided that we would construct a camera car that would be most adaptable to the work, one that would be light enough to cover ground as well as a passenger car.

It must be extremely sturdy for driving over all kinds of terrain, on roads or off of them, whatever the case might be; in other words, it should serve any and all purposes and operate at a minimum cost. Rain and muddy fields could not be a hindrance, as there would be assignments calling for work under these conditions.

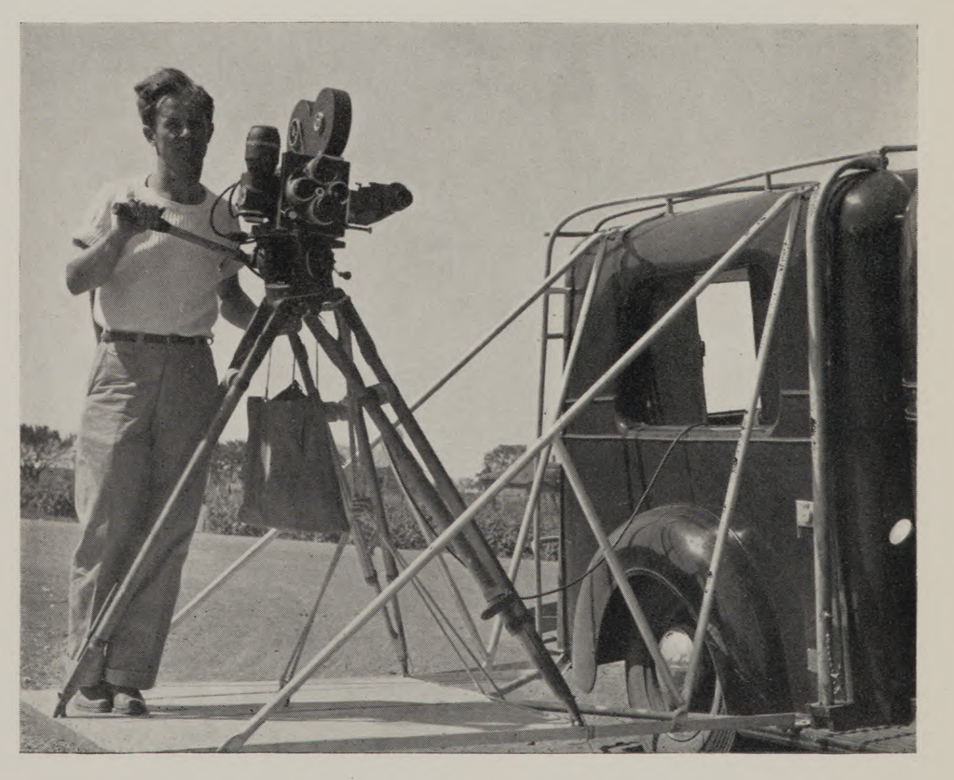
Work Done Quickly

In some cases work must be accomplished in a very short period of time and it might be of a delicate nature, calling for test strips, and there would not be time to locate a dark room or laboratory.

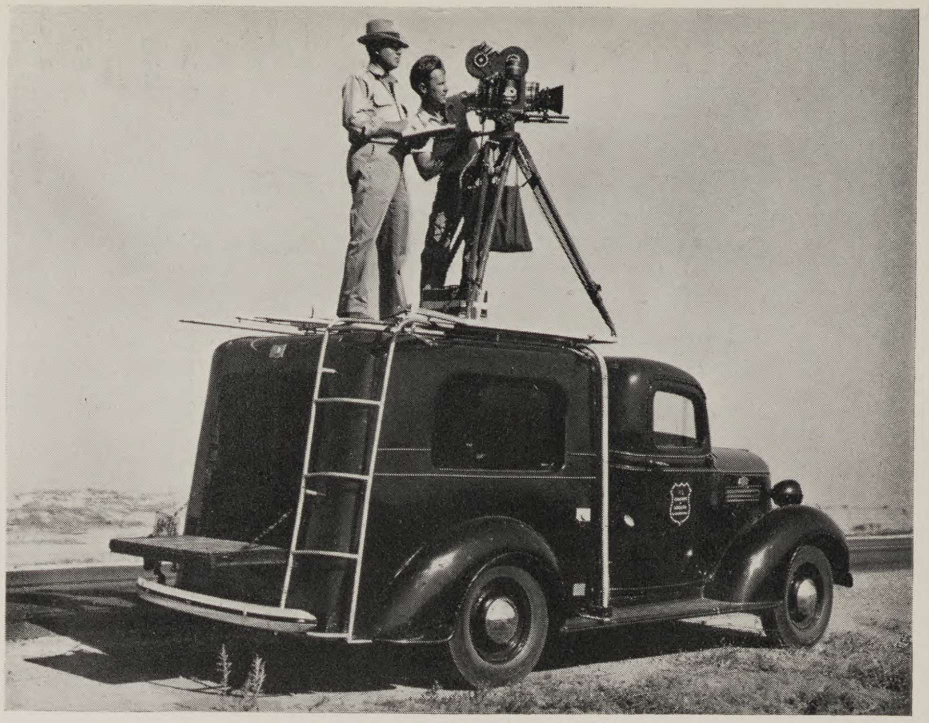
Perhaps the work is many miles from any town and, due to economic conditions, the cinematographer would be the only one on the job knowing anything of photography. The specialist would not be able to read a negative, necessitating a paper print in order that the specialist might see what the scene looked like.

Very often the production of a picture is continued throughout the four seasons of the year in order to obtain the complete story of a crop or the conditions of a soil under the changing conditions of the annual cycle.

After being somewhat educated, in a



Reed Haythorne, A.S.C., standing on the side platform preparatory to making a running scene. (Note the braces at the top bolted to spring steel.) Photo by Moore-Haythorne.



Haythorne working from the top of the car. The side platform is carried on the top and serves as a parallel. Government Specialist Gene Buie looking on and recording. Photo by Moore-Haythorne.

very small way, to agriculture, knowing of the desires of the department, the thoroughness of the specialists, the problems that would be encountered, I set about building a camera car that might possibly do the work.

Looks Into Future

First of all the Government does not plan for the present. It always looks far into the future. Therefore I had to keep this in mind and a dark room camera cabin was constructed that would fit the chassis of almost any make of half-ton truck, known as a pick-up.

If one chassis should wear out the cabin could be placed on another with very few minor changes. The new truck need not even be of the same make.

Knowing that it must serve as a dark room the windows were made of metal in three separate pieces. They are very large in order to permit sufficient opening to allow a cinematographer to make scenes through them from the inside of the cab during heavy rains. All or portions of the windows can be opened at will.

The entire back of the cab opens, the upper portion opens inward and fastens to the top of the cab, eliminating any chance of hitting one's head on it. The bottom half opens outward and forms a small platform which is always useful.

Well Braced

For elevation shots the top of the cab is used. To assure steadiness a telescopic pipe is fastened to the top of the cab on each side. The bottom of the pipe may be extended to any length, placed at an angle on the ground, thereby prohibiting any side movement and making a very steady platform.

An auxiliary platform was constructed that fits on the right side of the car and extends out about six feet, which is used for running shots. The top braces bolt into pieces of spring steel and the resiliency takes up considerable shock.

If there is no weight on the platform it has a slight incline, but when the weight of a camera and a cinematographer is upon it the car sags just enough to make the platform level with the running surface. Special rear springs make the car ride as smoothly as a passenger car.

Car Steady

The resiliency of the platform braces and the riding quality of the car together make running shots appear as dolly or crane shots. When the side platform is not in use it is fastened on the top and serves as the top platform.

For current an inductor alternator is installed under the hood on brackets that are adjustable. The alternator is driven by a separate belt from a double fan pulley. This belt can be removed easily when the car is to be used for distant traveling. However, there are only two bearings, one at either end of the shaft that will wear. These can easily be replaced. The generator inducts six volts, direct current from the car battery, generated and alternates it to any voltage desired.

I have carried seven hundred and fifty watts at one hundred and ten volts at a fairly constant sixty cycles. More wattage can be carried, but the frequency increases accordingly. In various locations on the car there are nine outlets in very handy and accessible places. There are no brushes, nor is there a commutator to worry about. In other words, the current inductor alternator is fool-proof and extremely useful.

Some of you trailer fans might remember the idea, even some of you cinematographers that have to get sunset shots or wait for an effect, why don't you remember this alternator and carry along a hot plate for sandwiches or a percolator for coffee, for those of you who drink coffee.

Father Meeus Returning

The Rev. Father Charles Meeus, who during the last year and a half has toured the principal cities of the United States in behalf of the large troop of Boy Scouts in China which has been consigned to his care, is returning to China early in June. The priest has raised a substantial sum of money for the benefit of his boys and has made a legion of friends while in this country.

On the evening of May 28 there was a farewell to Father Meeus held at the Ebell Theatre in Los Angeles. Rey Scott, Life's cameraman, and incidentally the "panda man," showed his famous colored film of the Great West of China, "China Under the Stars." Chang Shan-Tse, eminent artist of China, was presented to the audience. Also present was the boy choir of St. Brendan's. Father Meeus made a farewell address.

Hilliard Addresses Theatre Men on "Standardization"

John K. Hilliard, chairman of the Academy Research Council Theatre Standardization Committee, on May 9 addressed the Pacific Coast Conference of Theatre Owners on the subject of "Theatre Sound Standardization."

In his talk Mr. Hilliard explained that the aim of the program is to make sound from all studios reproduce equally well in each theatre, and detailed the present technical coordination between the production and exhibition ends of the industry.

Members of the conference were interested in the various performance standards set up by the Academy Research Council to guide exhibitors in their sound equipment problems, and in the present close coordination between all branches of the industry by which the Hollywood studios, the theatres and the sound equipment manufacturers are now proceeding in step on theatre sound problems.

In closing Mr. Hilliard stated that the Research Council is "performing a real service to the exhibitors at the present time by furnishing technical information, by setting standards for performance for theatre equipment and in coordinating studio sound recording with theatre sound reproduction."

Snip Your Films and Put Snap in Pictures

By CLAUDE W. CADARETTE, Founder Los Angeles 8mm. Club

THE projection of your films to an audience is the final step in motion picture photography. Your film must be in perfect order, the continuity must be strong, the action smooth, titles well placed and the rhythmic flow or tempo must fit the mood of the picture.

The final judgment of your picture is entirely dependent upon the manner in which you have presented it. Obviously, it will have a pleasant reaction if you have portrayed the story in a clear, concise manner, but should your continuity be incoherent, tempo incorrect or some other phase of movie making detrimental to the film there is no question about the kind of reaction it will receive from your critics.

When filming your scenario, you made each scene slightly longer than necessary so that you could allow for proper cutting. Then, too, the scenes were not always shot in their final sequence so that they must be rearranged to establish the continuity. Your particular interest is undoubtedly centered around the photography and special effects, while your audience is usually interested in only the story or purpose of the picture.

Making Prize Winners

A well-edited picture, combined with good photography and smooth continuity, will always be found among the prize winners. In contest judging, these phases of motion picture photography are the most important. The appreciation of your film by your audience will be greatly enhanced if you have edited your film properly, removing all undesirable actions and welded the scenes to produce a smooth, flowing continuity.

Assuming that your shooting schedule is over, the matter of cutting the film must be taken in consideration. All undesirable scenes, retakes and errors in action of the characters must be removed. It is said that the best editing of your film is achieved by allowing a stranger to do it. It is undoubtedly true that each of us are prone to leave scenes in the picture which have a sentimental value, although the picture would be improved if these scenes were shortened or omitted.

Cutting of film without regard or feeling for sentimentalities will add snap and zest to the picture. All scenes that do not add to the picture are valueless. Each time we cut a scene or discard it, we naturally feel a tug at the pursestings. Nevertheless it is necessary to steel ourselves each time we use the knife of the splicer.

Simple Continuity

Cutting must be done systematically when you are handling large quantities of film. It is well to project each processed reel to become familiar with the contents and then remove the grossest errors of exposures. When this has been done to each small reel, splice them together on a larger reel, leaving in all retakes.

After this has been done, project the large reel so that you can resplice it into a simple continuity. If you have a second large reel, do the same with it. This simple arrangement of continuity will greatly simplify the balance of the editing problem. The next step is the splicing in of titles in their approximate positions.

Now project your first reel, keeping notes on the retakes, comparing each to determine the best shot to use. Re-edit this reel, removing the shots that you have decided against using in the finished picture.

In all of these preliminaries, the actions in the scenes, or cross-cutting of scenes, has not been considered, as this procedure is the final step of proper editing. These phases will be corrected in the last cutting of the film.

Film viewers are devices for magnifying each frame of the film to a suitable size so that actions are discernible to the eye. They are invaluable for editing purposes, as you eliminate any guesswork and can be assured of accuracy. The viewers relieve the eyes of any strain and enable you to work for longer periods of time.

Action cutting must be very close and exact. The flow of the story depends entirely on the smooth action as it is presented on the screen. Much of the naturalness of action is maintained by synchronizing it in splicing.

If, in a long shot, a man is mounting a horse, the medium closeup of this action should not show him mounting the horse again. It would appear that the man had made a second attempt.

Splicing Closeups

In the long shot, the man places his left foot in the stirrup and lifts himself, swinging his right leg over the back of the horse. As the leg appears over the horse's back the scene should be cut to the frame of the medium closeup wherein the leg is also over the horse's back.

Splice the action of the second scene to synchronize with the action of the previous scene. Close cutting in this manner gives your audience the sense that they have merely moved from a rear theater seat to a place nearer to the screen without any jump or repetition in the actor's movements.

Likewise, if a long shot in a room shows a girl going to the telephone and picking up the receiver, the closeup should be cut in at the point where the actions correspond or synchronize. Remove all unnecessary actions that are tedious to view. It is not necessary to show a complete dialing of a telephone number. Just show a finger dialing one number, then cut to the long shot of the girl picking up the receiver.

Faster tempo keeps your picture moving and holds the interest of your audience. Let your audience use its imagination, as a mere suggestion of a small action is more convincing than a detailed, pictured one. The cutting of actions of gunplay must be done with subtleness.

Two Better Than One

Quick action of a man shooting a gun which is cut to a man staggering can portray more emotion than by attempting to show the murderer and victim in one long shot.

The cutting of long shot and closeups must be done with the thought of the actions in each scene. Long shots are known as establishing shots because you can see the entire locale and definitely locate the surroundings and settings. These are followed by medium shots to acquaint you with certain parts of the locality. The closeups give you intimate views of things or persons.

Closeups are also used to show small important actions which would not be easily seen in a medium shot, or to show you the facial expressions which would otherwise be lost in longer shots. If an action is important, cut in a closeup of it. Keep in mind, however, that un-

(Continued on Page 281)

PACEMAKERS

ENDOWED with special abilities in their special fields, and governed by supercritical manufacturing controls, Eastman negative films set the pace for raw-film quality. They share with cameraman and processing laboratory the credit for the unprecedented photographic excellence of today's motion pictures. Eastman Kodak Company, Rochester, N. Y.

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EASTMAN NEGATIVE FILMS

Story of a 16mm. Sync Machine Which Really Works

By HUBBARD HUNT

PRODUCTION in 16mm., after a rather hectic period, has finally graduated into long pants. The industrial producer, faced with a 16mm. Kodachrome sound job, had to rely on advanced amateur cutting and editing equipment to do a job as complicated as the average 35mm. production.

In the early days, not so long ago, much cutting was done on a "Rube Goldberg" set-up, employing a standard 16mm. projector. This, of course, was far from satisfactory, but as manufacturers came out with viewers, synchronizers, sound splicers and gadgets, the situation was greatly improved.

Hubbard Hunt Productions, with offices on the Talisman lot, was faced with many of these problems early in the 16mm. game. After two years of "trial and error" engineering, a sync machine was finally built which really works. We believe that this application, which has been used on four full length sound jobs, will be of interest to those who may have similar problems.

Trial and Error

Several producers attempted to and actually did construct photo-electric cells in standard Craig Projecto Editors. Some of these worked, but most of them proved to be too inflexible. For early experimental purposes, we started assembling a Craig viewer with a standard Moviola head rebuilt for 35mm.

Many different arrangements and positions were tried out, and as the preliminary idea progressed the machine gradually turned into a hodge-podge of wires, switches and headaches. With all the handicaps encountered, the cutter managed to assemble two 1200-foot pictures.

Before the next film was produced, which was to be a full length picture for the Harvill Diecasting Company, the problem was attacked from a more scientific basis and the result is the machine shown in the accompanying article.

The relative position of the viewer, Moviola and drive sprockets, had been determined in the first experiments. The problem was to assemble all units into a portable machine, which would be compact, and yet afford ample working room for the cutter. The following units were used to complete the machine:

- Standard 16mm. Craig Projecto Editor
- Master Craig Sound Splicer
- 16mm. Moviola head
- Western Electric Amplifier
- Lansing 12-inch speaker and case
- Bolex rewinds
- Bakalite Company Multiple-tap transformer
- Bodine Sync motor

How It Was Done

The first step was to design a two-level plywood table for transformer, amplifier and junction boxes. The half-inch plywood top and bottom were assembled with wood screws for rigidity and braced on the inside corners. Legs and leg braces were made of one-inch angle iron. The speaker was mounted on two sections of pipe, which can be removed from the table top for remote speaker mountings.

Incoming power first goes into a Western Electric master "kick off" switch mounted on the front panel, which protects the entire unit against short circuits. From here the line goes to a junction box inside the table from which all units, switches and lights are fed. The Bodine driving motor, which is controlled with a detachable foot switch and rheostat, can be conveniently placed for the operator.

To eliminate vibration the motor is mounted on a platform supported on Lord Mounts, which are rubber rings molded in metal. A reversing switch is mounted on the front panel and can be used when short takes are to be checked. This means that the two films do not have to be removed from the sprockets in making short rechecks.

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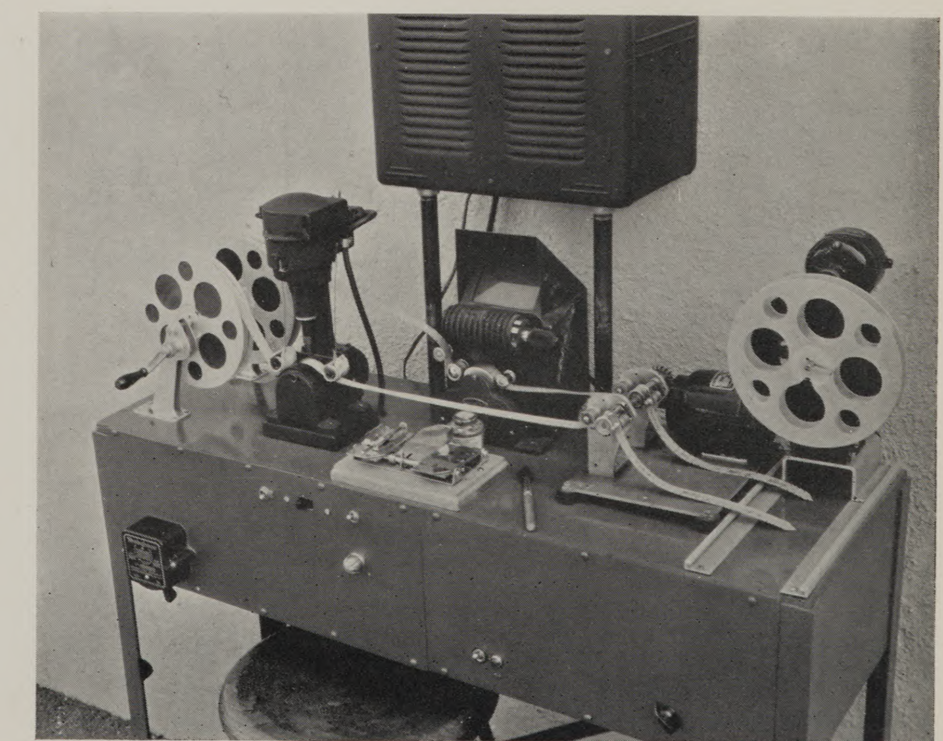


Portable 16mm. sound cutting unit designed by Hubbard Hunt Productions. The units used are as follows: Bolex Rewinds, Moviola 16mm. soundhead, Craig Projecto Editor, Craig Sound Splicer, Lansing Speaker and Western Electric Amplifier.

As One Practical Amateur to Another

(Continued from Page 260)

with them do not have the distant objects appearing as dwarfed as they would if photographed with the normal lens of a still camera.

The "speed" of a lens is controlled by the diameter of the glass surface. Thus a lens with a large glass surface passes more light to the film than a lens of similar focal length with a smaller glass surface.

Lens speed is technically defined as the relation of its maximum diaphragm opening to its focal length, and all cine lenses have a revolving ring, marked by a system known as "f stops" which control the amount of light passing through the lens to the film.

As previously mentioned, the most suitable focal length for a lens on a 16mm. camera for general use is one-inch (25mm.) and the stops are calibrated so that each time they are opened approximately twice as much light is allowed through to the film. For example, since the lens has a focal length of one inch, the relation for each full stop opening from f2 to f16 is as follows:—

The f2 opening is ½ inch in diameter
The f2.8 opening is $\frac{1}{2.8}$ inch in diameter
The f4 opening is ¼ inch in diameter
The f5.6 opening is $\frac{1}{5.6}$ inch in diameter
The f8 opening is ⅛ inch in diameter
The f11 opening is $\frac{1}{11}$ inch in diameter
The f16 opening is $\frac{1}{16}$ inch in diameter

It should be noted that as the f numbers increase, less light passes through the lens, also that "lens speed" refers to the amount of light transmitted to the film and is controlled by a diaphragm calibrated in units known as f stops.

*:X: Perspective may be defined as the art of portraying on a flat surface objects as they appear to the eye.

All f stops on cine lenses are not indexed as above, which admit twice as much light at each larger opening, as unfortunately it is not possible for lens designers to adhere strictly to these calibrations which are known as full stops. Sometimes for optical reasons a lens can be designed more simply if its widest aperture is not included in this scale (e. g., the popular f3.5 cine lens).

It follows that when other f numbers are introduced to this standard of calibrations, a point must be reached where adjacent stop markings do not admit twice as much light when the diaphragm is opened. Because of this fact it behooves the serious amateur to learn the simple rule which determines the exact relation of one stop to another. This is essential when an increase in exposure is needed to compensate for the absorption of light when a coloured filter is to be used in front of the lens. In this case the following rule is applied.

The speed of the lens varies INVERSELY as the square of the stop: For example, f2 squared is 4, and f4 squared is 16; now 16 is four times greater than 4, and as the speed varies INVERSELY with the square of the stop, f2 is four times faster than f4. Similarly, f8 will be found to be twice as fast as f11.

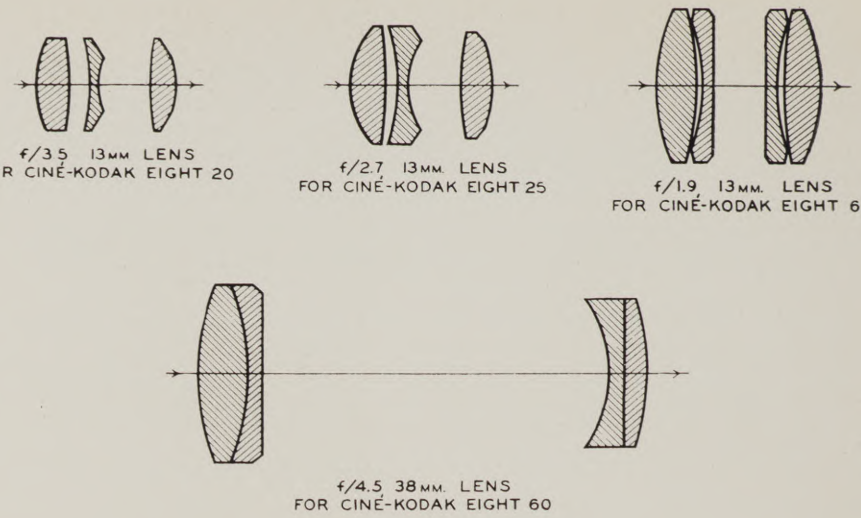
Get pencil and paper, work out the latter problem, and you have solved the difficulty of estimating correct exposure compensation. If you care to go further you will find that f3.5 and f4.5, if used in this table of f stops, would not be full stops but only half stops.

To estimate the exact opening to use on a given scene it is necessary to set the diaphragm at the correct stop. This should not be done by guesswork, but by the use of a good electric exposure meter.

F 3.5 one-inch cine lenses for 16mm. cameras and half-inch cine lenses for 8mm. cameras are made in either a fixed (universal) focus mount or a focussing (movable) mount.

One inch fixed focus, or so called universal lens mounts, have their focus set at infinity. This was introduced to simplify amateur cinematography and is found quite satisfactory for general work. In fact, the efficiency of fixed focus lenses will be appreciated when action pictures are being photographed with subjects constantly changing their distances from the camera. With this lens there is only one adjustment to make before shooting. That is to set the diaphram for correct exposure.

TO BE CONTINUED



f/3.5 13MM LENS FOR CINÉ-KODAK EIGHT 20

f/2.7 13MM. LENS FOR CINÉ-KODAK EIGHT 25

f/1.9 13MM. LENS FOR CINÉ-KODAK EIGHT 60

f/4.5 38MM. LENS FOR CINÉ-KODAK EIGHT 60

8MM. CINÉ-KODAK LENSES

"Repairs," third prize winner, by G. R. Stewart. Camera Graflex, 4 by 5 Kodak, lens f4.5, 1/10 second, f11. Developed in D76. P.M.C. Bromide. Made May 6.

Second Salon Success

By Paul Cramer

"Cream Puff." First prize winner by E. D. Potter. Camera Graflex, lens Zeiss Tessar, film Dupont. Stop 1/35 f9. Developed in 55D. Filter none. Paper, Defender. Remarks, neg. dev. in Vitol.

The second salon of the Southern California Projectionists Amateur Camera Club was a huge success. Twenty-eight very fine entries were exhibited at the Los Angeles Camera Exchange Store No. 2 at 167 No. La Brea avenue.

Of the twenty-eight pictures entered, the "Cream Puff," by Ed Potter, was judged the winner in Class A. It well earned its award. The second award was "The Desert School," by W. K. Lindley of Long Beach. It is one of the finest group pictures I have had the pleasure of viewing in years. This represents much hard work.

The third award, "Repairs," by George R. Stewart, an exterior, gives George full scope of his Graflex Kodak and his own photographic ability. Honorable mention went to Paul Neurerburg for his entrance of little Douglas Willey. The popular award went to Paul R. Cramer for his entrant "Caught in the Act."

The judging was by Jack Ewing, a well known authority on photography. Congratulations to all exhibitors.

Responding to the wishes of several of our members that we endeavor to have an expert at our next meeting to criticize constructively our workmanship in order that we may improve, contacts have been made on their behalf.

To clarify a misunderstanding concerning our rules relative to entries, I would like to state that each picture entered is automatically awarded one point toward the final sweepstake salon, whether it wins an award or not. Therefore it behooves you to enter your full quota of four pictures for each showing.

Owing to the fact that several of the members were late in entering their pictures, thereby holding up the judging on the entire group, it will be necessary for you to bring your entries with you to next meeting or have your entries sent in before 12 noon June 10. No entries will be accepted after that time under any circumstances.

William Hermance has just invested in some new equipment and is arranging to take the picture of the group at our June meeting.

Table Tops and Still Life will be the subject of the June Salon.

Our next regular meeting will be held June 6, at 11 a.m. at the Tarino Villa Cafe at 627 South La Brea Avenue.

"Desert School," second award, by L. K. Lindley. Camera 3¼ x 4¼ Speed Graphic, lens Zeiss Tessar f16 at 200. Filter none. Time, 2 p.m. April 23. Developed in D72. Paper, Defender, R33. Remarks, Wabash No. 0 flash.

VAN LEUVEN OF FONDA VISITS EAST

JOHN F. VAN LEUVEN of the Fonda Machinery Company of Los Angeles left for the East Saturday, May 25. He will be away three or four weeks. In the course of his journey he will visit Chicago, Detroit, Boston, New York, Washington, Cleveland, Dayton and Denver, as well as a stop at Salt Lake City on the final day.

Mrs. Van Leuven is accompanying. She is a graduate of Vassar, and is planning a stopover at Poughkeepsie to attend the celebration of Vassar's seventy-fifth year of educational service. That visit and laso a stop at the New York World's Fair will be the only incidents in an itinerary other than that of business.

It is three years ago Mr. Van Leuven established the Fonda Machinery Company. In that period the company has made substantial progress. In fact his visit at this time is necessitated by inquiries from various points. In recent months his company has made two machines for the Government.

Eleven months ago Fonda installed a 16mm. developing machine for Consolidated Film Laboratories in Hollywood. A 16mm.-35mm. developing machine, of which a picture is printed herewith, recently has been installed in the Pathe Laboratory in Hollywood.

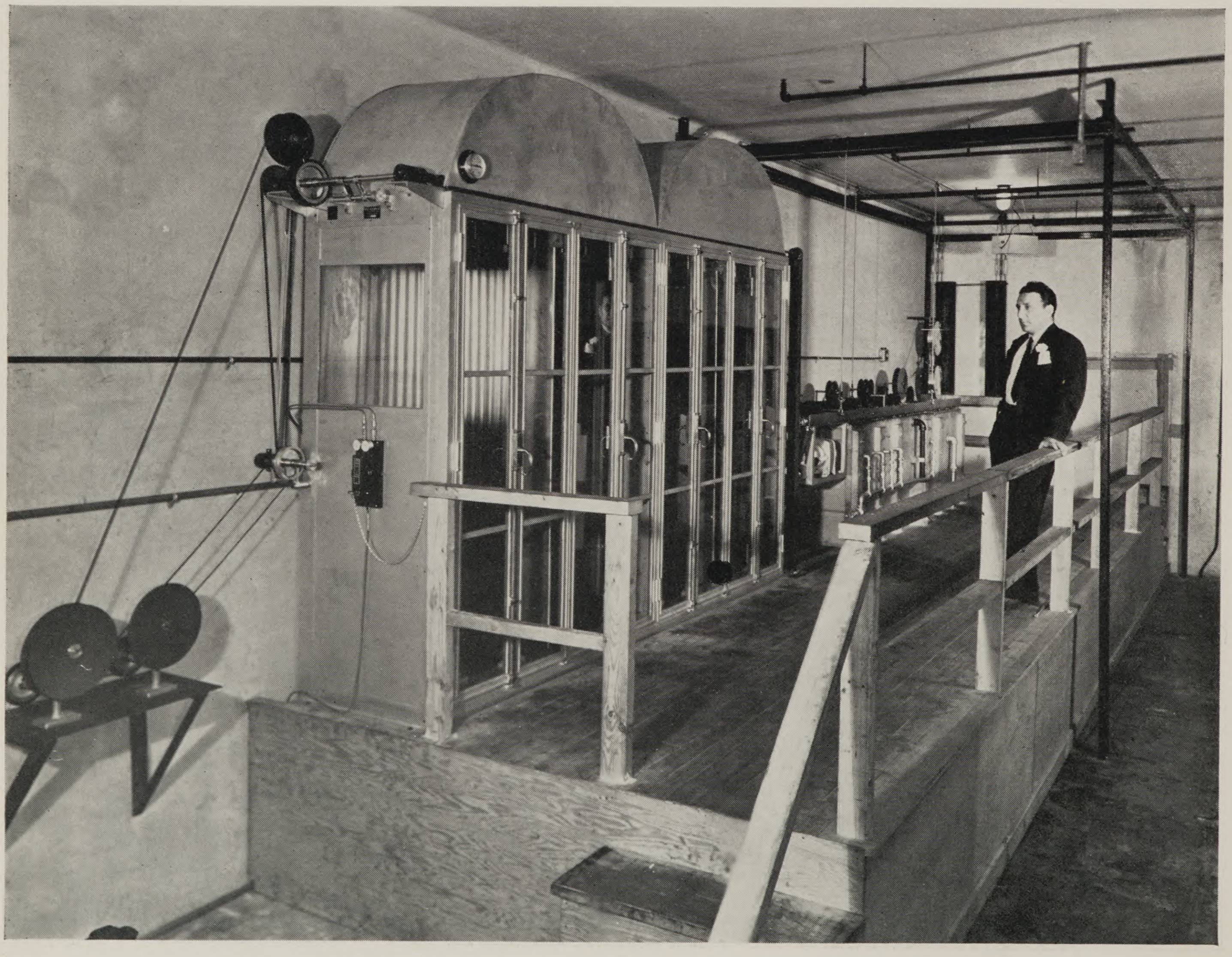
German Equipment Blocked from South American Ports

E. S. Gregg, general foreign manager of ERPI, returned to New York this week (Monday, April 29) following a three month tour of the Company's locations in Central and South America.

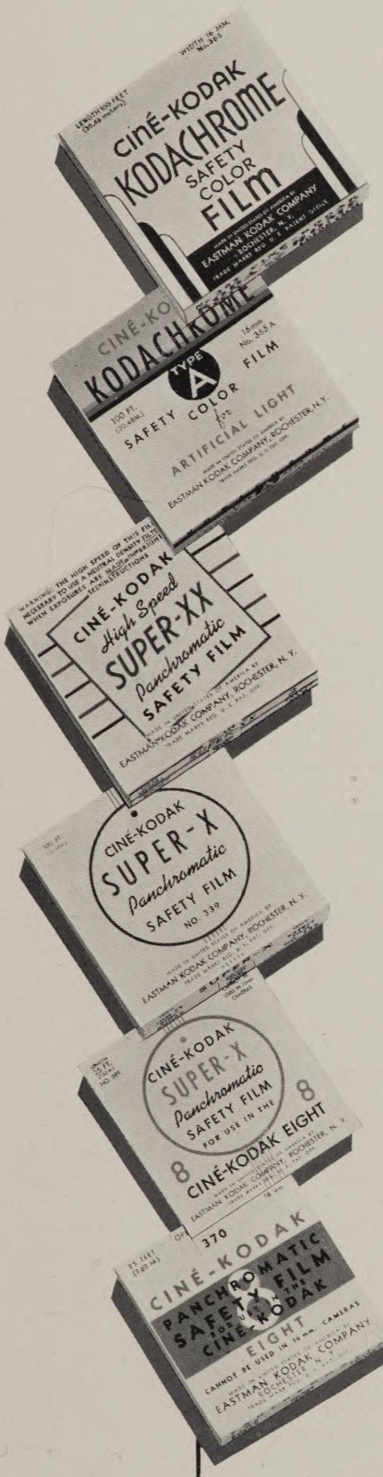
"In most countries of Latin America business seems to be staging a mild boom." Mr. Gregg observed. "New theatres as large as 3000 seats in capacity are springing up in almost every area. ERPI's business is keeping well abreast of this building advance and our line of theatre supplies, including sound equipment as well as projection apparatus, is rapidly replacing the European-made product. This is particularly true in Argentina and Brazil."

Equipment of German manufacture continues to occupy a prominent place in the market there, according to Mr. Gregg, because several large shipments slipped through the Allied blockade during the early weeks of the war. Unless additional material arrives, however, Mr. Gregg believes current requirements will largely exhaust this stock prior to the close of 1940.

Mr. Gregg's trip carried him through 14 countries and the distance of more than 22,000 miles was negotiated entirely by air.



16mm.-35mm. combination developing machine recently installed in Pathe Laboratory in Hollywood by Fonda Machinery Company, Inc., 8928 Santa Monica boulevard, Santa Monica, Cal. It has a capacity of 3,000 feet an hour. Standing by machine is Harold Knox, salesman for 16mm.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KODACHROME, the magnificent full-color film, is available in both 8 mm. and 16 mm. widths, in rolls and magazines. 16 mm. prices: 100-ft. roll, $8; 50-ft. roll, $4.30; 50-ft. magazine, $4.65. 8 mm., 25-ft. roll, $3.40.

KODACHROME, TYPE A, is color balanced for color movies by Photoflood light. Available in the same sizes as regular Kodachrome and at the same prices.

SUPER-XX "PAN" is the high-speed black-and-white film for indoor movies or for shots wherever daylight is poor. 16 mm. only. The 100-ft. roll is $6.75, 50-ft. roll, $3.75, and 50-ft. magazine, $4.

SUPER-X "PAN" is the favorite outdoor film for general work, accurately responsive to filters; yet it is fast enough for indoor work, assuming ample lighting. A 16 mm. film. The price, per 100-ft. roll, is $6; 50-ft. roll, $3.25; 50-ft. magazine, $3.50.

CINÉ-KODAK SAFETY (Panchromatic), an inexpensive, relatively slow film of good quality, for use when the special qualities of the other films are not required. A 16 mm. film, available only in 100-ft. rolls, at $4.50.

8 MM. SUPER-X "PAN" is the speed film for 8 mm. camera owners, a brilliant, clean-cut film of ample speed for well lighted interiors and for the widest variety of outdoor work. The 25-ft. roll is $2.25.

8 MM. "PAN" is the famous, fine grain film that made 8 mm. movies not only possible but popular. A beautiful daylight film, wide in latitude, crisp in quality. Price, $2.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Shooting Stars with Movie Camera

By WILLIAM D. FERGUSON

Amateur Cinema Club of Buffalo

THE stars referred to are not the million-miles-away variety—they're so close you can have parallax trouble with them! For the stars with which we are concerned are those of stage, screen and radio.

One of the most interesting reels you can have is a compilation of stage shots. There is a certain fascination in seeing famous faces on your own screen. And a certain satisfaction in knowing that you yourself photographed them. So if you've never taken your camera to the theater, you've missed a great bet.

Probably like many amateurs, the only reason you haven't done so is because you "never dreamed you could get anything." As far as subject matter is concerned, there's just no end to it. Most all cities of any size are included in the itineraries of movie stars and other celebrities.

We all know a deluxe model camera with a super-fast lens is ideal equipment for stage photography. However, the remarks set forth here are for the benefit of those owning, let us say, an Eastman model 25 with a 2.7 lens. Amateurs fortunate enough to own equipment of this nature are quite capable of taking splendid stage pictures. And amateurs who have never tried theater photography will be surprised at the results possible.

Use Fast Film

Load your camera with a good fast film. This, of course, is a prime requisite. Probably the best film to use for this purpose is Super-X, which not only has a very fast emulsion, but is remarkably fine grained. Don't bother shooting stage pictures with a film slower than Super-X. You'll be losing time, film and patience.

Lighting of the stage cannot be controlled by the cameraman, of course. But don't worry about tne lighting and don't bother carrying your meter with you. The combination of Super-X and a 2.7 lens will pick up everything there is to be seen on a well lighted stage.

What is meant by the somewhat vague term "well-lighted stage" is one with some white footlights burning, flood lighting from the wings, possibly some overhead lights, and a good white spotlight. This might seem quite complicated. However, such is not the case. A little observance will disclose the fact that lighting conditions similar to those mentioned prevail in eight out of ten scenes in the great majority of stage presentations.

One of the most important things to remember is to shy away from colored lights. In fact, don't shoot at all when color predominates the lighting. It's best to expose only when white footlights or white spotlights are being used. And the combination of the two is much better. Was the word overexposure mentioned? With the film and opening recommended, overexposure is practically impossible, so leave the word home with your meter.

"Sixth Sense"

A little experimenting will impart confidence and gain for you a photographic "sixth sense" that will enable you quite accurately to judge stage lighting conditions. This "sixth sense" will not come in a flash, however. Stage lighting appears a great deal stronger than it actually is, especially colored lights. Most beginners fail on this very point.

Colored lights look strong enough to register, but nine times out of ten they're not. Your eyes might see the light on the stage as being extremely bright, but keep the aperture wide or you'll probably be disappointed. The whiter the better for lights—the wider the better for lens.

The model 25 Eastman is of the fixed focus variety, which is so much the better. With a camera of this type you can follow a player's action completely, from the moment of entrance at the side of the stage to arrival at center stage. Just try and follow quick action of this nature with a focusing camera, especially under the difficult operating conditions afforded by a dark theater interior.

As far as where to sit is concerned, your best bet is undoubtedly the first row, a few seats to one side being better than exact center. In these days of public address systems a center seat catches more microphone than subject.

Frequent change of position is to be recommended. Shots taken at various angles and distances, when edited into a final print, make for greater interest. In order to obtain these interesting angles it is necessary, out of consideration for others in the theater, to get all the shots you want from one particular seat at one performance. Then change to a different vantage point at the next performance. This might seen difficult, but it's worth it. Never change seats during a performance.

Edit Mentally

If a really complete and interesting sequence is desired, you might open with a long shot taken from the balcony, or a box or loge. Then cut to a semi-closeup from the front row side, and finally a closeup from a near center seat.

These different positions afford a change of pace that is welcome in any film. And while you are taking shots from different angles, try to remember the shots you already have by doing some mental editing. Your shots will tie together beautifully if you indulge in intelligent camera editing instead of merely "take pictures."

It is to be recommended, if one has the time and patience, to see a complete performance before attempting to take any pictures. This is especially true if the show you are photographing is of a pretentious nature. By witnessing one performance without a camera you are able to make definite plans and know ahead of time when the climax of any act is reached.

The value of this advice will be realized after you have missed a few "surprise gags." It's easy enough to be familiar with an entire routine by the simple expedient of viewing the performance before photographing it. Taking along a small notebook will enable you to jot down notes that will further aid your planning.

The finales of most shows usually are the most colorful periods of the entire presentation. Undoubtedly you will use a good deal of footage at this point. However, here's an idea that may not have occurred to you.

In photographing the very last bit of action, let your camera run while the curtains are closing. Keep on shooting until they are completely closed. A waste of film, some might say. But no—you will find that these closing curtains end each episode even more effectively than a fadeout would. Try it.

Don't Sneak

Of course, before any of these shots can be taken, it is advisable to consult the theater manager for permission to photograph. The great majority of

(Continued on Page 285)

When the Amateur Tackles Kodachrome

By RALPH H. HAYDEN

IT is our good fortune to be living in this marvelous era of scientific achievement; and it is our particular good fortune to find ourselves interested in photography at the same time, so as to be able to take advantage of the many recent products of the research laboratories.

In view of the rapid advance of photographic interest of the general public in recent years, and in view of the outstanding advancements in our practical knowledge of light and color, it is not, therefore, surprising that one of the most highly acclaimed modern miracles is that of Kodachrome film—a product which enables even the beginner in photography to make gorgeously realistic pictures; either in motion or as still transparencies in full natural color.

While the highly specialized professional photographer has had, for a decade or so, several more or less satisfactory methods of making direct color transparencies, it is only with the advent of Kodachrome that the interested amateur has found it practical to indulge in that most interesting field of photography.

Although no extensive photographic knowledge is necessary for the successful amateur use of Kodachrome, it is interesting to delve slightly into its intricacies to understand why its handling must necessarily differ from that of ordinary black and white film and to learn something of the theory whereby such perfect results can be obtained so easily.

All Kinds of Rays

Reviewing hastily your knowledge of the physical properties of light, you know that light is but that very short range, to which the human eye is sensitive, of a long series of the electro-magnetic rays (cosmic rays, X-rays, ultra-violet rays, light rays, infra-red rays, radio waves, etc.)

Assuming light to be of this nature, then, it is easy to understand that the different colors, as we see them, are but rays of different wave length. In passing white light through a prism, the longest visible rays, which we know as red, are refracted the least; the green are refracted more, being a shorter wave length; and showing the greatest refraction, the shortest, the violet, image is seen.

Now, fortunately our color vision is due to three primary color responses of the eye. One nerve being stimulated by blue, another by green, and the third by red, results in our being able to discern color, and the stimulation of these nerves in the proper proportion results in the sensation of any desired color.

Because of this phenomenon, it is possible to make natural color photographs, with all intermediate colors correctly rendered, by using only the three primary colors. Kodachrome film takes full advantage of this fact, and thereby produces results of maximum brilliance with a total absence of the screen pattern characteristic of many other color transparency processes.

The film is composed of three individual emulsions, separated by layers of gelatine, on one base; the whole being scarcely thicker than an ordinary black and white film. The layer of emulsion nearest the surface is sensitive only to the blue light, the middle to blue and green, and the last to red and blue, but not to green.

First Stage the Same

Between the green and blue sensitive layers is a yellow dye which, of course, absorbs all blue and thereby prevents the lower two emulsions from exposure to blue light, while transmitting all the red and green light, permitting those colors to register in their proper proportions upon the proper emulsion.

The first stage of development is similar to ordinary black and white processing—the emulsions are developed to negatives. If it were possible to strip each emulsion from the base separately and compare it with a good set of negatives made with the use of separation filters, one could discern no difference in color rendition.

The similarities of black and white development with the Kodachrome process ceases abruptly at this point, however. Rather than removing the unexposed silver bromide by hypo, as is done at this stage of the black and white process, the Kodachrome is then placed in a bleach which removes all of the developed metallic silver, but which leaves the unexposed, and therefore undeveloped, silver bromide in the film.

The film is then re-exposed to white light, and redeveloped in coupler developers, which in addition to converting the silver bromide to metallic silver, deposits, at the same time, a dye of predetermined color along with the silver. Following this rather intricate operation there is but one step remaining in the process—that of bleaching out the remaining silver, so that only the three dye images remain.

Naturally, because the color images of the transparency are formed by subtracting from white light that color which will leave the desired color, the dyes used in the film are the complements of the color to which the film was originally sensitive.

Yellow Dye Image

In other words, where, in the unprocessed film there was a blue-sensitive emulsion, there is now an image of yellow dye; in inverse proportion to the amount of exposure received on that emulsion. Likewise the middle layer is now magenta, and the bottom a blue-green image.

Where the emulsion received no exposure there is a full quantity of dye; where it received full exposure, there is no dye at all. In viewing the transparency, the full range of color, exactly as it appeared in the original scene, is apparent because the white light coming through the transparency has, in the image seen as blue, had the green and red completely removed by the magenta and blue-green dyes in the two lower layers of the film.

Likewise has had the other two primary colors removed in their proper proportion—the red being visible because of the absorption of the green and blue by the upper two layers of dye, and the green by the absorption of blue and red by the yellow and blue-green dyes in the top and bottom emulsions.

From the foregoing, although only the primary colors have been considered, it should be clear that intermediate colors and mixtures are secured by partial absorption at each layer, and where there is a heavy dye deposit in all three layers no light will be transmitted, and the image at that point will be black.

Exposure Latitude Reduced

So far as the casual amateur is concerned, however, a mere knowledge of the principle of Kodachrome is sufficient; his main interest lies in the exposure of the film. Surprising as it may seem, quite satisfactory results are obtained under normal conditions by following closely the exposure guide placed in each package of Kodachrome and by exercising a little extra care in the matter of color harmony.

(Continued on Page 282)

Films in Springtime

(Continued from Page 247)

are much at their ease, bubbling over with mischief, not even sidestepping in the slightest degree on one occasion a redhot personal scrap. They talk and act like human beings, for the moment free from a hazardous occupation.

Virginia Bruce is the feminine lead, that of a stewardess in love with a flier (Dennis Morgan). She appears to advantage in a benevolent part as distinguished from a heavy. There is a long cast, among the more prominent support being Ralph Bellamy, Wayne Morris and Jane Wyman.

L. William O'Connell, A.S.C., is director of photography. His work does much to enhance the illusion, to add to the "naturalness of the portrayals" already referred to. Byron Haskin, A.S.C., and Edwin DuPar, A.S.C., took care of the special effects. They had much to do, especially with planes in the air. That wild stratosphere flight test was a stirring, thrilling thing, showing the plane simulating a straight drop of many thousand feet—and how fast it traveled—to be straightened out eventually when the pilot recovered his senses.

In this unusually entertaining picture mention should be made of the editor and the sound man—James Gibbon and Dolph Thomas respectively. In fact, every one who touched the picture, in little or large degree, added his bit. Lewis Seiler directed.

●

Edison the Man

M. G. M. has contributed to the men and women—and children—of the nation and the world a vital subject. In "Edison the Man" it has created a biography that will stand in all probability for a long time. Certainly no other effort in the same direction can ever be made under the same advantageous circumstances. The more remote the life of the man being portrayed, the less contact that is possible with the men and women who were in intimate touch with the man himself, the more difficult will it be to recapture the subject, to show him as he lived.

The picture as a triumph will be credited to Spencer Tracy by the general public. That is well. He is entitled to it. But the larger credit by many will be extended to Clarence Brown, director, who brought to his task the knowledge he gained at the University of Tennessee, from which institution he was graduated as an engineer.

While the subject abounds in drama—drama with a real thrill—there is much connected with it that is technical. Technicalities as a rule are not conducive to concentration on the story by the average man. There is no doubt in this instance the story is told so simply, so directly, so clearly, the man out front is concentrating on this story of formulas, of failure after failure, and final success.

There is a woman in the story, but she bulks as a dramatic factor, retiring, as the wife of the constantly concentrating Edison would have to be, yet having plenty of spirit when necessary, Rita Johnson is an appealing picture.

In the cast are Lynne Overman, Charles Coburn, Gene Lockhart, Henry Travers, Felix Bressart and the many coworkers of the inventor. There is conviction in the work of all of them.

Harold Rosson, A.S.C., is director of photography. "Edison the Man" is a picture he will have no hesitation in adding to his list. It is splendidly done.

●

Torrid Zone

James Cagney in Warner Brothers' "Torrid Zone" comes to bat with some of his best playmates. Among these are Ann Sheridan, Pat O'Brien, Andy Devine, Helen Vinson, Jerome Cowan and George Tobias. It may be said all of them have much to do, and all of it is well done.

Cagney plays himself—and for entertainment purposes that's all he has to do at any time—in this story of the banana jungle and primitive railroads. Ann Sheridan steps up a goodly space in her steady climb to unseat that old-time and often good remark about the beautiful but dumb. Easily she is beautiful but bright. And then some.

Pat O'Brien's splendid work is slightly marred by the extreme rapidity of his near Winchellian enunciation. He makes it rather tough on those who are hard of hearing or mentally inalert—or possibly both.

Several times in the course of the picture laughter blotted out the immediately following dialogue. In other words, the dialogue was funnier than its creators realized. If that be an oversight in construction very likely it will be forgiven.

George Tobias is great as a native South American whose property has been, as he suggests, feloniously absorbed by the fruit company, and who is indulging his reasonable best to handicap the fruit company carrying on business. Andy Devine is of his usual stamp —up with the best.

James Wong Howe, A.S.C., is director of photography, with special effects by Byron Haskin, A.S.C., and H. F. Koenekamp, A.S.C. It all is like the work of

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one man in finely matching the mood and rapid tempo of the story.

The picture was generously applauded by a preview audience, composed of press and studio representatives. That doesn't have any particular significance from the studio side, but certainly it does from the press—and this seemed pretty freely from the press.

●

Twenty Mule Team

Wallace Beery in M-G-M's "Twenty Mule Team" puts on one of his most robust performances. He enters the picture as the kingpin $100 a month mule skinner of the borax company. He is loud and hard and not too scrupulous. For any thirst he encounters he will be forgiven. It's a thirsty job. Leo Carrillo is the Indian helper or "striker." He makes much of a seemingly unimportant part.

Marjorie Rambeau is the mother of an ambitious daughter, who in her desire to reach the city gets beyond her mother's control. The story turns on the efforts of the bad man, the bad young man, to entice the girl to go to the city. When the bad young man shoots the mother—some would say in self-defense—she tells Beery what has happened. Beery runs down the slicker and in a duel shoots and kills him.

There is plenty doing throughout the picture, plenty to give it interest to the lover of outdoor, robust stories, but it gains much in the scenes of Death Valley and in the manner in which those scenes are transferred to the screen. For this work Clyde De Vinna, A.S.C., director of photography, is at his famous best. He brings to us Death Valley, with its sweep of scarred mountain and dusty plain. We see it in pitiless noonday and in the approaching chill of fading day. To the lover of photography a view of some of the more pronounced of these scenes well might be the major interest or incentive in deciding to buy a ticket.

●

"You Can't Fool Your Wife"

Cliff Reid has produced for R. K. O. an entertaining little tidbit in "You Can't Fool Your Wife." While it will never win any great laurels, nor has it any pretentions to grandeur, this domestic farcical little piece held its own throughout. There are plenty of occasions for laughs which the preview audience didn't neglect. At future showings, too, the laughs will come.

Clara and Andrew Hinklin could be any average young American couple presided over by a heckling mother-in-law who was aptly called the old goat. After five years in a domestic rut, Andrew Hinklin comes home drunk. Thereon the action of the picture hinges. His wife, spurred on by her mother, brings the situation to a head and has her husband leave home.

Under the auspices of Battincourt, the English representative of Hinklin's firm, the two are finally united to live happily ever after—we hope! The familiar routine of the Hinklins' home life, plus the interfering officiousness of Mom Fields, the mother-in-law, and the little every-day happenings are what bring the laughs.

Lucille Ball was Clara Hinklin, the colorless wife who blossoms out. This undoubtedly is Miss Ball's best effort. James Ellison played Andrew Hinklin and he, too, turned in his best performance to date. Emma Dunn as the mother-in-law was perfectly cast. Each of the others cast, Robert Coote, Virginia Vale, Elaine Shepard and William Halligan, turned in good performances.

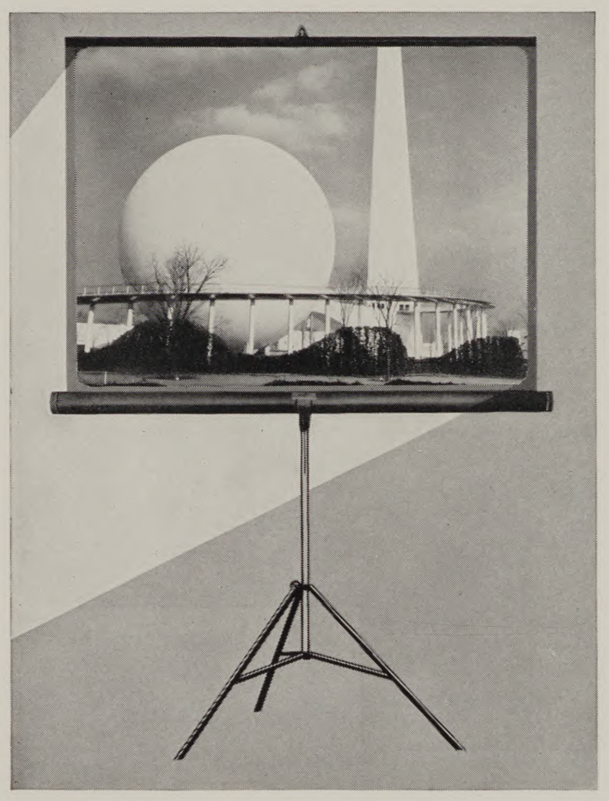
A full share of the credit goes to Ray McCarey for his fine direction and to Jerry Cady for his script. J. Roy Hunt, A.S.C. kept up the record with his fine photography. M. D.

●

My Favorite Wife

RKO Radio has built a genuine comedy in "My Favorite Wife." Bella and Samuel Spewack have written the screen story. What they accomplished is well told by the mirth, restrained and unrestrained, that flowed from the great preview audience. Irene Dunn and Cary Grant are the leads, and in the lead they are much of the time. Randolph Scott was most effective in his somewhat brief appearance, while Gail Pat-

The Perisphere Won't Bounce Nor the Trylon Dance a Jig



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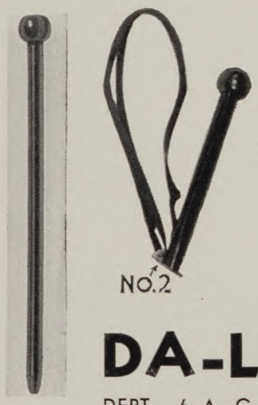

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rick played herself down on audience sympathy in order to build up her opponent.

There was an irascible judge, too, Granville Bates, who by his crotchety disposition had the house in stitches. It was a smooth cast, but as the average cast is composed of veteran players nearly always it is almost invariable they really are smooth.

Rudolph Mate, A.S.C., was director of photography. To him was given a wide range of locations, including a Yosemite resort, a swank beach club, elaborate night spots, a courtroom, a mountain lake, and a number of spectacular night shots. It is all well done, so satisfyingly natural in its photography especially that the illusion is protected and remains intact from the beginning.

●

I Was an Adventuress

Twentieth Century-Fox presents in "I Was An Adventuress" a light comedy-drama with a distinctly continental flavor. Directed by Gregory Ratoff, the picture runs fairly smoothly through many varied and sometimes novel situations. Karl Tunberg, Don Ettlinger, and John O'Hara, who wrote the script, provided some very amusing lines which were expertly handled by the small but choice cast.

The story was not out of the ordinary, but provided to a degree satisfactory entertainment. It marks the return of Eric Von Stroheim to the American screen after a long absence. He turns in an excellent and very convincing portrayal as one of the scoundrels and leader of the trio. Peter Lorre, the other swindler, is a master of pantomime and plays a bewildered apologetic role in which he steals all his scenes.

Zorina completes the trio and shows that she can act as well as dance. The story did not give Richard Greene, who played the romantic lead, very much to do other than look handsome, but he did his best with what the script provided.

Luxuriously mounted with beautiful sets, the highlight of the picture was the one ballet, finely staged by George Blanchine. It was all too brief. It gave ample opportunity for some very lovely and striking photographic effects by Leon Shamroy, A.S.C. and Edward Cronjager, A.S.C., who photographed the picture.

M. D.

●

Women in War

Elsie Janis, famed entertainer of American troops abroad in the World War, was the sure enough lead as matron in a nurse unit in Republic's "Women in War." She had a stern part in a nearly stern picture. Wendie Barrie was Pamela, the second lead grown to womanhood with an absence of parental affection and even more so with an absence of discipline. She develops into a young person quite able to take good care of herself, possessing a large degree of independence — and plenty likable, when she chooses to be.

There also is a love story, one in which Larry, an engaged flyer, changes his mind about fiancees, deciding in favor of Pamela, to the great distress of Gail, also a member of the unit. It is this somewhat important incident which goes far to change the course of the story, to heighten its drama, to bestow on its telling a real thrill.

It is a good story, smoothly executed and portrayed. When a battery lays down a barrage the result is convincing —and when the women walk into it, from different reasons, it is terrifying regardless of the reasons.

Jack Marta photographed the picture and Howard Lydecker handled the special effects. Both men and their crews did creditable work.

Agfa Announces Inexpensive Model f5.6 Memo Camera

Incorporating many of the exclusive features of the f3.5 and f4.5 Agfa Memo Cameras, a new, inexpensive model—the f5.6 Memo—has now been made available by Agfa Ansco, selling at $14.50.

This 35mm. double-frame, miniature camera is fitted with an f5.6 corrected anastigmat Memar lens focusing from 3½ feet to infinity, and with an accurate shutter giving speeds of 1/25, 1/50, 1/100 seconds, and Bulb and Time exposures. In addition to its compact design and rugged steel construction, the camera provides the exclusive Memo-type of rapid film transport mechanism and is quickly and easily loaded with a standard Agfa Memo cartridge to give twenty-four double-frame size pictures (1-7/16 by 15/16 inches) per cartridge.

Cleveland Amateur

At the last meeting of our club on Wednesday evening, May 15, in Hotel Carter, the members enjoyed one of the most educational and instructive programs in club history. John Flory of New York, now directing the production of a commercial talkie for a large Cleveland financial institution, and formerly identified with Paramount as a scenarist, discussed the fundamentals of script writing and their application in the production of motion pictures by the amateur.

Mr. Flory very aptly gave many interesting highlights about Hollywood studio activities. Many helpful suggestions were offered which will aid our members in improving their future filming efforts, and certainly he will be welcomed back again as a speaker before our group.

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Snip Your Films and Put Snap in Them

(Continued from Page 269)

important closeups will only retard your tempo.

If a character is to walk out of the door, it is not necessary to portray his entire exit, as the film can be cut when the actor is closing the door behind him. Even a few frames of an empty scene lessens the speed of your picture and should be removed.

Camera illusion can be aided by the use of good cutting. Scenes denoting speed, haste or confusion are better when short scenes of fast actions are interspliced. This will key up the audience's mind, making them more alert. You will notice that professional films present scenes of actions on the screen just the proper length of time.

Avoid Sudden Light Changes

Before you have the opportunity to visually criticize the scene, it has changed, and you are occupied with a new scene.

Avoid, as much as possible, the splicing of light and dark scenes together, unless the action specifically requires this practice. If the character must exit from a high key scene to a low key scene, this cannot be overcome.

The splicing of spoken titles must be cut in at their appropriate places. A good practice to follow is to cut the spoken title in approximately two-thirds the length of the scene. Cut back to the actor finishing the talking. In this manner, we see the actor speaking, then the title, after which we are brought back to the actor. Spoken titles must be short, and limited in number.

Interspliced titles permit longer conversations without retarding the tempo. For an example, a closeup shows a girl speaking, then a title: "The doctor says he'll die—", splice back to the girl as she turns her head slowly, splice in a closeup of her father as he sits in thought, splice back to the girl as she speaks again, cut to title "unless the specialist can operate." Splice back to the girl as she begins to cry.

Break Long Titles

Intersplicing of titles must be carefully planned to maintain a flow of thought without any apparent interruption. In the case where a long title is necessary it is more advantageous to break up the title so that the screen has as much action as possible.

Whenever it can be done use montage effects to replace titles. Changes of locations, lapses of time and other specific transitions can be shown in a series of short, appropriate shots to better advantage than a sterotyped title of "In the Meantime" or "Following Month." Let us assume that in a series of short shots you wanted to film an auto hit by a train.

Start with a long shot of a car traveling fast down a highway. Cut in a shot of a speeding train. Now add a short shot of the motorist's face showing his horror of an impending crash.

Cut in a short shot of foot pushing the brake pedal. Cut in a short medium shot of the on-coming train. Back to motorist putting hands over his eyes. Then to a shot of a wrecked automobile. Cut to a short shot of man's hand holding steering wheel. Blood trickles down hand.

By carefully splicing these short shots of a few frames each, in a proper sequence, and just giving the audience a flash of each scene, you can portray a wreck more realistically and with more emphasis than any other means.

Montage Saves Film

Slavko Vorkapich, the famous montage editor in Hollywood, states that many thousands of feet of film is saved each year by montage sequences. Likewise, many feet of amateur film can be saved by the same method. It is most important, of course, to make your splices accurately so that the projector won't jump the montage effects all over the screen.

Cutting and editing keeps your picture moving and interesting. If you sense a drag or lull, recut until the lull in tempo is gone. Often, the removal of three or four frames will do this. Although you may be disheartened in removing them, it is well to remember that if it aids the picture as a whole, the loss of a little footage will be worth it. Recutting and re-editing film five or six times is usually necessary to remove unnecessary frames and to synchronize actions.

Next Week Transitions

Next month we will discuss means of transitions. A transition should not be confused with montage effects as each has a definite purpose, although the methods for making each one are nearly alike.

When you tell a story to a group or make a speech, you try to relate it as convincingly as possible. This is what you are trying to do with pictures, and the editing and cutting is that phase of motion picture work that puts the snap in your films.

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When the Amateur Tackles Kodakchrome

(Continued from Page 277)

Admittedly, however, Kodachrome, as compared to black and white film, has very little exposure latitude; therefore, the lighting on the subject should be quite even and the exposure accurately determined.

In fact, the Weston Electrical Instrument Corp. suggests that with its meter, the brightness range be kept within a 4:1 ratio. In using Kodachrome film for artificial light it is quite easy, by proper placement of lights and reflectors, to attain this balance.

Lights such as the Baby Keg and Dinky-Inkie, with which the intensity of elimination falling upon the subject can be easily controlled, are advisable. In outdoor Kodachrome photography the solution of the problem may not be quite as simple, but judicious use of reflectors and of the new daylight photoflash bulbs will very often supply the proper balance.

Kodachrome film is now available in all standard cut film sizes, as well as 35mm. Bantam, and amateur motion picture and 16mm. sizes. Each size may be obtained with the emulsions balanced for daylight or for artificial light, although the artificial light balance for the cut film, designated as Type B, differs from that for the other films, which are known as Type A.

The daylight Kodachrome emulsions are the same for all sizes, the balance being for the average temperature of daylight, 6000 degrees Kelvin. Because of this color balance it is imperative that the light by which the film is exposed be of the proper color temperature.

With the artificial light emulsions, this problem is automatically solved so far as the amateur is concerned, by using the proper type of light source; remembering that the Type A is balanced for the photoflood and the Type B for the 3200 degree Kelvin bulbs.

Color Harmony Important

Daylight color temperature between the hours of nine and four is usually quite close to the 6,000 degree Kelvin for which the daylight film is balanced, and the amateur may well dismiss the matter from his mind. However, where the Kodachrome is to be used for reproduction, or where extreme accuracy in color rendition is desired, the use of the Eastman color temperature meter and compensating filters are to be strongly recommended.

Color harmony is a subject of comparatively little import in black and white photography, where contrast depends on effective brightness. In Kodachrome photography, however, color contrast is of the greatest importance, and should be carefully considered in every scene.

In the practical usage of Kodachrome it will be found that the average anastigmat lens of good quality will give satisfactory results. Because out-of-focus color is not at all pleasing it is well to use the smallest stop possible, taking advantage of the maximum depth of focus.

With the exception of the color compensating filter used in connection with the color temperature meter, there are only three purposes for which filters are recommended for use with Kodachrome. Two filters, the No. 1 Haze and the No. 2 A, are available for use in removing the Ultra-Violet, which would otherwise show as a blue haze, especially on landscape scenes.

While the No. 2 A filter is also employed when the Type B filter is used with photoflash bulbs, no filter is necessary should the Type A be exposed by them. The Wratten No. 80 filter is supplied as the Kodachrome filter for photoflood, and is used only when the daylight film is exposed under photoflood illumination—a situation which, because of the extreme loss of film speed, should be avoided when possible.

The third situation which necessitates the use of a filter is that brought about by the necessity of using the artificial light Kodachrome in daylight. Two filters are supplied for that purpose; the No. 85 (daylight) filter for Type A and with the Type B Kodachrome. It is important to realize that no filters, other than those mentioned, should be employed in the exposure of Kodachrome, and even these should be used in absolute accordance with the instructions packed with the film.

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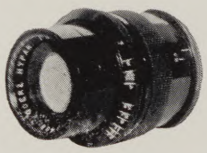

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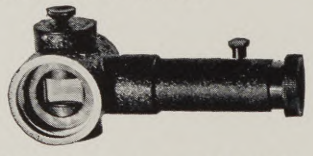

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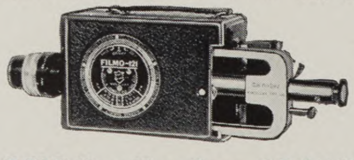

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James Lett Celebrates Its Eightieth Anniversary Date

The Photo Supply Dealer of Fernandina, Fla., carried a story for May about the James Lett Company of Harrisburg, Penn., photographic supply dealer. Under that same name it has been doing business since 1860, now eighty years. James Lett was born in England in 1826 and came to this country in 1848, working for a New York importing house. In 1860, after ten years' experience in handling Daguerreotype supplies, he moved to Harrisburg and entered business as a photographic supply store. It was the first such store known in the United States and perhaps in the world. His son succeeded to the business on James Lett's death in 1900.

The eightieth anniversary of the founding of the business was celebrated in Harrisburg recently by a delegation from the East and another from the Middle West, from dealers and manufacturers. In 1921, when the son of James Lett died, the business was purchased by William J. Morrow, who still remains at the head of the company. James Lett is store manager.

Buffalo Amateur Cinema Club

Continuing its policy of studying professional motion picture technique, the Amateur Cinema Club of Buffalo presented a 16mm. sound film, "Flagships of the Air," at its May meeting. In addition, John DeBus, local commercial photographer, gave a highly instructive talk on lighting.

"Flagships of the Air" is an American Airlines film that the Amateur Cinema Club of Buffalo recommends highly to organizations in other cities as being well worth seeing. Contact your local American Airlines office if you are interested in details.

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USE MORE SMALL LAMPS RATHER THAN FEW LARGE ONES

WHEN it comes to interior lighting one of the questions most frequently asked by amateurs is whether it is better to use a few large lamps or a greater number of smaller ones.

There is a very practical basis for this question, for if one only has so much to spend on lighting equipment the idea of getting one or two highly efficient lamps, with consequent savings in both first cost and in globe replacement expenses, can be very tempting indeed.

But from a standpoint of practical cinematography there can be only one answer: that a large number of smaller lamps are infinitely preferable. The whole course of motion picture lighting shows that the professional cinematographer has learned this the hard and costly way—by trial and error.

The first studios used the sun for illumination. Later, big overhead arcs and mercury-vapor lamps were substituted for sunlight. They provided ample illumination to make an exposure, but they flooded it all over the set, and allowed little or no control of the highlights and shadows that made the picture.

The result was a fundamentally flat picture. There were no heavy shadows —and neither were there any particular highlights. There was nothing to make the actors stand out in front of their background; the result on the screen was the sort of picture we've since learned to call flat and uninteresting.

Picture Quality Improves

In other words, at that time cinematographers had not yet learned to differentiate between illumination and lighting. Only as they did so did the photographic quality of our pictures improve.

When the revolutionary idea of modeling with highlight and shadow took hold, and special lamps for the various purposes were developed, the slow speed of the film then available necessitated that the lighting units used be large and powerful.

Since then, a lot of changes have taken place. Film has become infinitely faster; lenses have speeded up. Accordingly, less light is needed to make an exposure. And with this development, professional cinematographers too have been given the choice of using fewer lamps but large ones, or using more lamps but less powerful ones.

For the past ten years, and especially since panchromatic films have successively given way to superpan, Super-X and most recently Plus-X, the dominant trend in all studios has been toward using an increasing number of lighting units, of progressively smaller and smaller individual size.

Eight or ten years ago the bulk of studio lighting was performed by "broads" and "rifles," fitted with 1000-watt and 1500-watt globes, and by 18-inch and 24-inch Sunspots, with 2000-watt and 5000-watt globes, respectively.

On big sets 36-inch mirror spotlights with 10,000 watt globes were common. Spotlights of any type smaller than a 1000-watt unit were rarely used except in detail lighting of closeups.

Small Lamps Prevail

Today, visiting the set of any representative director of photography using fast film, one sees plenty of lamps, but seldom anything bigger than a 1000 or at most a 2000-watt globe; the bulk of the work is done by Baby Keglites and Solarspots fitted with 500-watt globes.

Now what does this mean when applied to sub-standard camerawork?

Simply this: that 16mm. emulsions—both reversal and negative—have followed the same trend as 35mm. And while it must be admitted that the design of amateur lighting equipment has lagged far behind that of professional lamps, the advances in film sensitivity have been so great that the amateur, like his professional fellow, can now consider illumination as distinctly secondary to lighting.

When 16mm. made its first bow the only film available was an ortho type, so slow to any type of artificial light that

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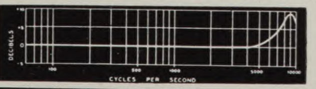

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the amateur's only hope was to use an expensive, flickery arc that produced a tremendous volume of light—and set the electric meter spinning like a merry-go-round.

Even when the first panchromatic types appeared, they were really slow, rating at from 5 to 8 on the Weston scale.

The first supersensitive types improved this somewhat, boosting the artificial light speed to about Weston 16. Today's fastest films—like Eastman's Super-XX and Agfas Triple-S Pan—are rated at a speed of Weston 64 to mazda light.

Concentrate on Lighting

In other words, the amateur can now begin to take illumination and exposure more or less as a matter of course, and concentrate on lighting. He can think of the screened effect of his picture, rather than worrying about getting any picture at all.

If he restricts his lighting to a relatively few, powerful lamps, he can—thanks to modern film and lenses—illuminate a large area to a satisfactory exposure level. But his picture will probably be flat and two-dimensional. There will be little separation between foreground and background, and between people and the walls behind them.

If, on the other hand, he breaks his illumination up into a larger number of relatively smaller light sources, he can still illuminate the same area, and still get the same overall exposure value: but he can place his lights so as to make the picture more natural and more interesting.

One of the first tricks of lighting is contrasting the various planes of the picture, to give an effect of depth. This isn't easy to do if all your light comes from a few large lamps; but it is easy if you use a number of smaller lamps.

Just how you do it depends, of course, upon the room in which you are working, and the action you are shooting. Most frequently in home movie longshots, the action centers in the distance.

Therefore if we arrange our lamps so that most of the light is concentrated where our action is, with little or none in the immediate foreground, we'll get an effect that makes the room seem bigger and longer. Especially if we can have a doorway or a piece of furniture silhouetted in the foreground.

Backlighting Easier

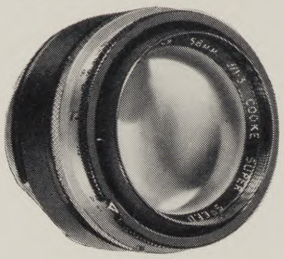
It is quite possible to reverse this plan, and have the foreground more brilliantly illuminated, with the background not in shadow, but with a distinctly lower illumination level. Sometimes you may want the foreground and background dark, with the middle plane the one best illuminated. In each case, audience attention follows the strongest illumination.

Closely akin to this is backlighting. Most thoughtful amateurs, when making outdoor scenes, use backlight whenever possible. But a large percentage of them overlook the value of this trick indoors. Since the development of the handy, clamp-on type of reflector unit, interior backlighting has become much easier.

It is far easier to clip one of these lamps on to a molding or curtain rod behind your subject and above him, stringing the wire overhead out of the camera's range, than to attempt to conceal a stand lamp in a position where it will serve a similar purpose.

And in interiors, where backgrounds and clothing can so easily render in similar tones, backlighting is an invaluable aid in making figures stand out prominently from their surroundings.

There is another, closely related trick of lighting which can not only help separate figures from their backgrounds, but can make furniture and the like stand out more prominently. This is the trick of putting a light behind the person or object in question, and directing the lamp's rays on the wall behind.



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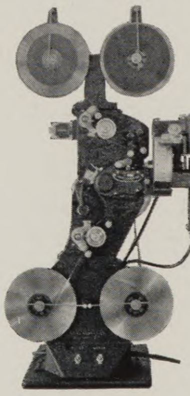

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But—suppose we follow professional practice, and have one foreground lamp, placed relatively low, detailed to the specific duty of illuminating that black wrap. Further, as the wrap is removed, suppose that particular lamp is dimmed —without altering any of the rest of the lighting.

The result will be a natural blend on the screen: as the wrap comes off, the exposure value will remain constant. The fact that we used a dimmer will not be noticed: but the more consistent quality of the picture will tell its own story to the camera-minded!

Next time you go to a movie notice how frequently this trick is used to aid in lighting studio sets!

A further advantage to be gained from using a larger number of smaller lamps is in the ability to control the modeling illumination on people better. It is entirely possible to light a shot of a person with only one or two lamps.

Two Lamps Better

All of us have seen, though, that if we use only one lamp, the result is likely to be flat and uninteresting, while if we use two, one on each side of the camera, but with one lamp nearer the subject than the other, we get an interplay of light and shade which gives a more natural effect.

But in doing this, there is always a good chance of accentuating shadows, lines and wrinkles on a face in an unflattering way. But—suppose we lay down a foundation of soft light from one or two small units, diffused with silk or tracing cloth diffusers.

Then above this foundation we create the necessary highlights and halftones for modeling. The foundation lights will iron out the heavy shadows and wrinkles; the stronger modeling lighting will make the face and form seem normally three-dimensional.

And the result will be a more satisfying picture. Then add backlight or backwall lighting to this, and you'll be surprised at the way the picture will jump at you from the screen.

Finally, if you want to go in for further professional refinements, there is the use of dimmers. Dimming rheostats can be had in small sizes, adapted to controlling one or two house lights. They can be used similarly to control one or two small photofloods; and they can be extremely useful.

Suppose, for instance, that we have a scene in which a girl enters clad in a dark evening wrap, and slips it off to reveal a light-toned gown. The exposure values of these two garments won't match: if the lighting is correct for the light-toned dress it will be hopelessly inadequate for the non-reflective black wrap; if it is strong enough to give some texture value to the wrap it will overexpose the light dress.

16 mm. Sync. Machine That Really Works

(Continued from Page 271)

Amplifier and Moviola switches are in series with red safety lights mounted on the front panel. A single two-way switch turns the viewer light off and the work light on. The entire wiring layout is accessible by removing the back panel.

Cutting is done into a two compartment, cloth-lined basket. An electric rewind is provided on a sliding track which picks up long takes from either basket. The Craig viewer, attached to the table top, has a glass jar within the unit to catch dust and film scraps.

More Detail

In the early experiments the Craig rewind was used, but it was necessary for the operator to hold the reel back to eliminate "wows." As soon as the new Bolex rewind, equipped with friction brakes, came out, a changeover was made and their action has proved most satisfactory. When a 2000-foot reel is to be reviewed a special bracket is attached to the side of the table to hold the extra rewind.

On the first setup the film was taken from the Moviola and viewer, through the drive sprockets and directly on to two reels powered from the driving motor. Slip clutches took care of the changing ratio, as the films were wound on. This system may be better in some laboratories, but we found the baskets to be handier, as much of the work is done with short takes.

Unit Is Compact

As the cutting progresses, both track and work print are notched to maintain sync without going back to the "head." The position of the Moviola behind the viewer may seem confusing to some cutters.

This was done for three reasons: First, spacing of units worked out better. Second, cutting is done to "dead sync." Third, "wows" were eliminated by having the soundhead near the feed reel.

On long tests or takes, when footage is to be determined, a portable counter is placed on the table top between the cutter and drive sprocket and the film is threaded through. The one-twentieth horse power motor has ample power to pull both films through viewer, sound head and cutter.

The entire unit probably weighs about 120 pounds. Its compact form and flat back make it easy to store and place against a wall in the cutting room. Operators stool and foot control pedal are placed under the table when not in use. Chamoise covers are provided for sound head, viewer and cutter. The total cost of parts was about $350.

Chairmen of the basic committees of the Academy are John Arnold, photographic; Grover Laube, cine-technical; Burton F. Miller, optical; J. M. Nickolaus, laboratory, and Loren Ryder, sound.

Eastman Issues Kodachrome Subject on Feeding Birds

"How Birds Feed Their Young," the first Eastman classroom film in full-color Kodachrome, is announced from Rochester by the Eastman Company. One-half reel, it is available for immediate delivery.

The photographer, Dr. Arthur A. Allen, professor of ornithology, Cornell University, shows the Indigo bunting and towhee bringing food to the nest in their bills (the most common method); a thrush feeding the hungriest first; a male bluebird illustrating how he sometimes stands guard at feeding time; a cedar waxwing feeding its young with food carried in its throat; a goldfinch demonstrating feeding by regurgitation of food partially digested; a hummingbird squirting food into the young birds' throats; young herons pumping food from the parent's throat; snakebirds helping themselves to food swallowed by the parent; the least bittern brooding its young after feeding; quail and grouse leaving the nest in search of food immediately after hatching.

Surdam Chosen Fellow

Sherman E. Surdam, commercial and portrait photographer of the General Electric Company, and president of the New York State Professional Photographers Society, has been admitted to fellowship in the Royal Photographic Society of Great Britain.

Mr. Surdam, whose prints have been shown in all the major salons of this country, becomes one of few Americans ever elected a fellow of the world-wide organization.

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Shooting Stars with Movie Camera

(Continued from Page 276)

managers are usually willing to cooporate. If permission cannot be obtained, don't "sneak" your pictures.

In doing this there is an excellent chance of your being forcibly ejected and having the film removed from your camera. If this occurs, the goodwill of the manager is also lost. If you can't obtain permission to photograph the performance, there's usually a good reason.

Editing in an occasional shot taken backstage from the wings will bring "oh's" and "ah's" from your audience. This is usually an extremely difficult feat to manage, unless one has some good acquaintances at the theater.

Titling each episode presents no great problem. A shot of the theater marquee is always effective. Here, too, a full opening of 2.7 is usually required. The theater's newspaper advertisement usually makes fine material, and portraits clipped from movie fan magazines make good subtitle backgrounds.

"Candid Shots from the Baldheaded Row" might be used as a main title. And instead of a fade at the end of the main title, draw a piece of cardboard over the card, from the top downward, thereby simulating the dropping of a curtain.

Reports Theatre Building and Opening in East Asia

D. D. Wight, who returned recently from four years of managerial duty with the Western Electric Company of Asia in the Shanghai and Manila offices of the ERPI subsidiary, reports that theatre equipment sales in the Orient continue steadily despite war and the unsettled status of the Philippines.

Besides interesting personal experiences in the early days of the Sino-Japanese undeclared war, Mr. Wight reports a considerable number of theatre openings in China. Despite the severe handicap placed on importation by the fall of the Chinese dollar and the unsettled financial situation in the Orient, the Chinese continue active in promoting theatre development in the interior, which will make theatre entertainment available to hundreds of thousands driven inland by the Japanese.

In addition, Mr. Wight reports, some new building has been noted in the three main coastal cities, Shanghai, Hongkong and Tientsin. The Japanese also have reopened some theatres in occupied areas and are making elaborate plans for the entertainment of the army of occupation.

Mr. Wight states also that considerable building has been done in the Philippines during the past year and continued, though diminished, activity is still apparent.

Overcoming Projection Difficulties

(Continued from Page 258)

new 1200-watt lamp. At about 7:30 one was handed to us. It had been phoned for to Boston, a hundred miles away, sent by messenger to the Greyhound bus terminal, and delivered by the chauffeur to a waiting member of the club later, at the local bus station there in Durham.

The officers of the Lens and Shutter Club were our hosts (and hostesses) at dinner in Commons, a treat that carried us back in thought to undergraduate days of our own, and then it was time for the Show.

Here again we had a full house.

There had been some advance sale of tickets, and over two hundred and fifty were sold at the door. The Murkland Auditorium seats four hundred or thereabouts, but very few chairs were vacant, and those only in the extreme rear, where we were set up.

The Show seemed to make a hit, which pleased us, particularly as the Dean had so definitely voiced his disapproval. He thought "Amateur Films will never fill the screen. You won't be able to see them, and I have never seen any worth such trouble, anyway."

After the Show, at his home, where were invited the club officers, our group and one or two faculty members, he expressed his pleasure and interest. He, too, had been won to the "non-theatrical" film—the amateur film—and he so stated. His disapproval had been sincere, and so was his subsequent approval.

As for the undergraduates: they were already talking about "next year."

We hope that we can repeat the Tour—and that there can be a week of it. It was nerve-racking at moments, but it was great fun. We all learned a lot, and what is best, we made some new friends, not only for amateur films, but for ourselves.

We hope to meet them all again.

Low Priced Speedex Junior Announced by Agfa Ansco

A new, low-priced model of the recently announced Speedex Camera is now available for amateur photographers desiring a folding camera with the construction features of the Speedex but with simpler lens and shutter equipment. Known as the Speedex Junior, the new Agfa model employs the identical design, styling and construction used on the more advanced Speedex, and so offers all the picture-taking convenience brought by the body shutter release; centrally-located, optical, eye-level finder; rapid opening, precision movement of front platform, and hinged back with safety latch.

The Speedex Junior is fitted with a fixed-focus, four-aperture, double lens of rectilinear correction and with an accurate shutter giving instantaneous and time exposures. Loading with inexpensive B2 size roll film, the Speedex Junior takes twelve pictures in 2¼ by 2¼-inch size, the increasingly popular square format.

A sturdy, pressed-steel frame and a durable, ribbed, waterproof covering contribute to the camera's ruggedness, while additional construction features include: Variable diaphragm, centrally-located film window, recessed tripod socket in position of optimum balance, built-in neckcord eyelets and built-in cable release socket.

The Speedex Junior is entirely made in U.S.A. and is obtainable through photographic dealers at $11. An eveready carrying case, yellow filter, portrait attachment, cable release and neckcord are also availble as accessories.

S.O.S. Takes Over

Carbon Products Company, former distributor of projection arc and photographic carbons imported from Champion Electrical Works, London, England, and Compagnie Lorraine de Charbone, Paris, have sold their entire stock to S.O.S. Cinema Supply Corporation of New York.

These carbons were formerly sold under the trade name of Sun-Arc and will be continued by S.O.S. under that brand as well as its own international label.

Vincent Hart of Hays Staff Joins New York Legal Firm

Vincent G. Hart has been admitted to the law firm of Friend, Holbrook, Reiskind and Hart, of New York, which will continue to engage in the general practice of law in the R.K.O. Building in that city. Arthur S. Friend, senior member of the firm, was one of the organizers of Famous Players-Lasky Corporation, predecessor of Paramount Pictures, and for many years its general counsel.

Mr. Hart for the last ten years has been on the staff of Will Hays. He will specialize in motion picture law and censorship matters.

Research Council Adds Reels

The Academy Research Council announces the availability of two additional test reels for use in adjusting and maintaining theatre sound reproducing equipment to current quality standards: a standard flutter test negative for measuring the amount of flutter in a theatre soundhead and a standard continuous scanning illumination test track for rapidly and accurately measuring the uniformity of illumination across the scanning slit in the sound system.

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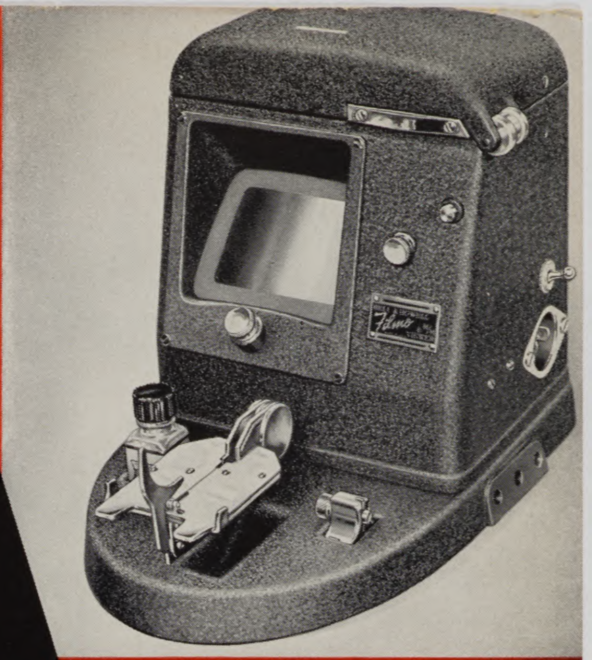
New FILMOTION VIEWER and Splicer ➜

(For 8 mm. and 16 mm. film—a model for each)

Now when editing your movie scenes, you may see them as *motion pictures* rather than as series of stills. The new B&H FILMOTION VIEWERS bring this professional method to 8 mm. and 16 mm. film editing. Built with typical Bell & Howell attention to *every* detail and *every* phase of the problems of editing, they provide *complete safety* to those priceless scenes that cannot be replaced.

When the Model 136 Splicer and the proper rewinders for your size film are attached to the Filmotion Viewer, you have a complete and highly efficient editing outfit that makes a pleasant pastime of what might otherwise be a difficult and annoying task. Either Filmotion Viewer may be had complete with splicer, as pictured, or you may detach your B&H Splicer Model 136 from its present base and mount it on the rounded-front viewer base.

See them at your Filmo dealer's after June 15, or use the coupon to send for new descriptive circular.



GREAT NEWS FOR MOVIE MAKERS

BELL & HOWELL presents brand-new accessories that enable you to give the professional touch to making and editing movies. . . .

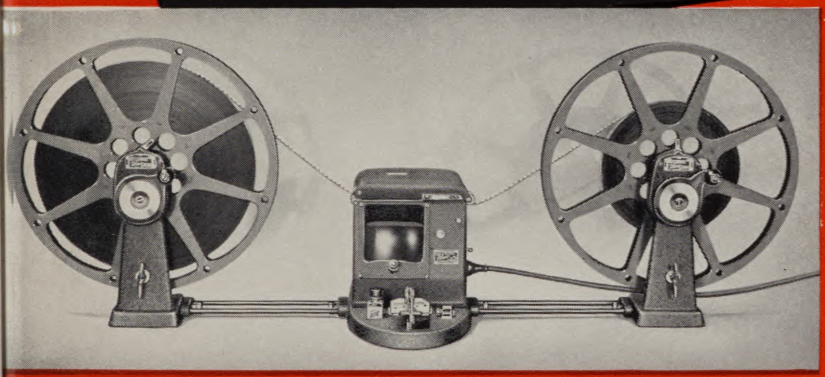
FILMO TURRET 8 MM. CAMERA

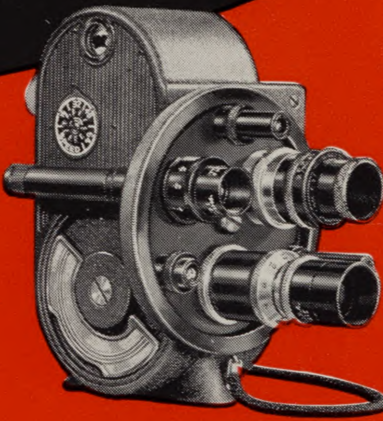
(Pictured left, below)

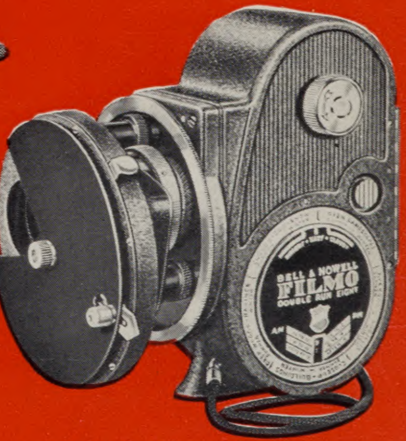
Combines the economy of 8 mm. film with the instant readiness of a newsreel man's camera. Mounts three lenses *and* their matching viewfinder objectives on a revolving turret. Just turn the turret, and the correct lens and finder are both in position to use. Select the lenses you need from seven fine, color-corrected Taylor-Hobson and B&H lenses available. The Turret 8 also has positive-type finder, magnifying critical focuser which shows the entire frame, four film speeds including slow motion, single-frame exposure button, and automatically reset film footage dial.

With one lens (T-H 12½ mm. F 2.5)....................$140

With provision for film wind-back for making lap dissolves (with new Filmo Fader) and double exposures $172







Filmo Turret 8 with rewind knob, Fader, and Wipe Disc, for making fades, wipes, lap dissolves, and double exposures.

NEW Heavy-duty Two-speed REWINDERS

(For 16 mm. film)

Here are new film rewinders that make film editing easier, faster, more fun. They have a gear-shift lever which provides three positions: (1) low speed, 1-to-1 ratio, for editing, (2) neutral, to free the spindle from which film is being unwound, and (3) high speed, 4-to-1 ratio, for fast rewinding. At either speed, the reel turns in the same direction as the crank is turned. A manual brake, handily placed, permits tight rewinding and safe control of even the heaviest reels. Reels as large as 15-inch diameter are accommodated. And these new, professional-type, heavy-duty rewinders fit into combinations with the present B&H Add-a-Unit line of film editing equipment, and with the new 16 mm. Filmotion Viewer, as pictured. See them at your dealer's soon, or send coupon for new descriptive circular.

NEW Filmo FADER and Wipe Disc

(For Filmo 8 mm. and Filmo 70—16 mm.-Cameras)

Usually, changes from one scene to another in amateur-made motion pictures are abrupt—but now you can employ various special effects to soften transitions, as is done in professionally made films. With the new Filmo Fader and Wipe Disc you can make fade-ins . . . fade-outs . . . wipe-offs . . . wipe-ons . . . lap dissolves . . . double exposures. Lap dissolves and double exposures require a Filmo that provides for winding the film back—but if your Filmo 8 or Filmo 70 is not so equipped, conversion can be made reasonably.

Filmo Fader with Wipe Disc..........$17.50

New Descriptive Folder telling what you can do with the new Fader and Wipe Disc, and giving details on film wind-back provisions for Filmo Cameras, will be sent upon request. Use the coupon.

MAIL THIS COUPON for complete information on the new accessories described in this announcement. Bell & Howell Company, Chicago; New York; Hollywood; London. *Established* 1907.

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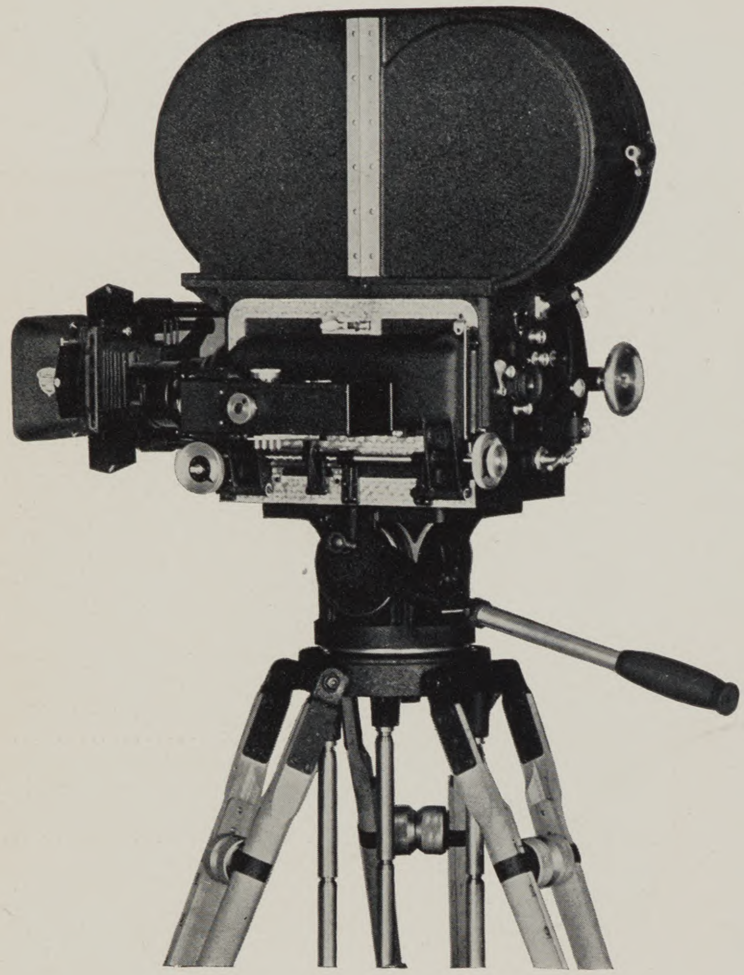

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